Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 19194
MSAI Group: 4713

Sample ID: CRC

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	382	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	11	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,110	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,620	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	ND	mg/l	0.5
0235	Biochemical Oxygen Demand, Total Method: EPA 405.1	< 6	mg/l	2
0242	Cyanide, Total Method: EPA 335.2	ND	mg/l	0.005
0434	Phenolics w/ww Method: EPA 420.1	ND	mg/l	0.01
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	21	mg/l	5
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,080	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside Cogeneration

Sample ID: CRB
Matrix: Waste Water

MSAI Sample: 19195
MSAI Group: 4713
Date Reported: 06/06/94

Discard Date: 07/06/94
Date Submitted: 05/20/94
Date Sampled: 05/19/94
Collected by: JC
Purchase Order:
Project No.: Q041994A

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	0.75	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	430	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	0.12	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	281	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	ND	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	25.3	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	437	mg/l	5.0
8259	Mercury by Cold Vapor AA Method: EPA 245.1	ND	mg/l	0.0005

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 19195
MSAI Group: 4713

Sample ID: CRB

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	302	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	ND	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	4,360	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,400	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	ND	mg/l	0.5
0235	Biochemical Oxygen Demand, Total Method: EPA 405.1	< 6	mg/l	2
0242	Cyanide, Total Method: EPA 335.2	ND	mg/l	0.005
0434	Phenolics w/ww Method: EPA 420.1	ND	mg/l	0.01
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	7	mg/l	5
1125	Sulfate, Turbidimetric Method: EPA 375.4	2,800	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

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Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside Cogeneration

Sample ID: CRS Dissolved
Matrix: Waste Water

MSAI Sample: 19196
MSAI Group: 4713
Date Reported: 06/06/94

Discard Date: 07/06/94
Date Submitted: 05/20/94
Date Sampled: 05/19/94
Collected by: JC
Purchase Order:
Project No.: Q041994A

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum Dissolved by ICP w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	0.99	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	469	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	301	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.27	mg/l	0.02
0259F	Mercury by Cold Vapor, Dissolved Method: SW-846 245.1	ND	mg/l	0.0005
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	32.6	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	469	mg/l	5

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 19196
MSAI Group: 4713

Sample ID: CRS Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

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Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside Cogeneration

Sample ID: CRC Dissolved
Matrix: Waste Water

MSAI Sample: 19197
MSAI Group: 4713
Date Reported: 06/06/94

Discard Date: 07/06/94
Date Submitted: 05/20/94
Date Sampled: 05/19/94
Collected by: JC
Purchase Order:
Project No.: Q041994A

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum Dissolved by ICP w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.00	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	451	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	0.12	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	311	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	0.52	mg/l	0.02
0259F	Mercury by Cold Vapor, Dissolved Method: SW-846 245.1	ND	mg/l	0.0005
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	32.3	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	490	mg/l	5

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 19197
MSAI Group: 4713

Sample ID: CRC Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside Cogeneration

Sample ID: CRB Dissolved
Matrix: Waste Water

MSAI Sample: 19198
MSAI Group: 4713
Date Reported: 06/06/94

Discard Date: 07/06/94
Date Submitted: 05/20/94
Date Sampled: 05/19/94
Collected by: JC
Purchase Order:
Project No.: Q041994A

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum Dissolved by ICP w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	0.74	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	429	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	277	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0259F	Mercury by Cold Vapor, Dissolved Method: SW-846 245.1	ND	mg/l	0.0005
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	24.8	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	439	mg/l	5

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 19198
MSAI Group: 4713

Sample ID: CRB Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

№ 2793

Mountain States Analytical

Sample Chain of Custody

Client Name: ~~SUNNYSIDE~~ E.W.P. ENG. P.O. #

Phone #: 801-261-0090 Fax #: 266-1671

Project Name/#: SUNNYSIDE COGENERATION

Sampler: Jim Combs

Analysis Required: COARSE REFUSE SEEP MONITORING

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total of Containers	Rush?	Remarks	Temp. of Samples Upon Receipt
CRS	5/19/94	1612		✓		✓		7			
CRC	5/19/94	1626		✓		✓		7			
CRB	5/19/94	1645		✓		✓		7			

Name of Shipper	Airbill No.	Date	Time	Sample relinquished by:	Date	Time	Sample received by:	Date	Time
				Jim Combs	5/19/94	1715	S. Scott Carlson	5/19/94	1715
				S. Scott Carlson	5/20/94	0800	Jennifer Fox	5/20/94	0800

Received By (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): Normal Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date)

Rush results requested by (please circle): Phone Fax

Report Results to:

Type of Disposal:

Authorized for Disposal by:

Date/Time of Disposal:

Disposed of by:

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

White Copy - Original Retain by Lab Yellow Copy - Return to Customer Pink Copy - Retain by Sampler

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside Cogeneration

Sample ID: CRS
Matrix: Waste Water

MSAI Sample: 20189
MSAI Group: 4982
Date Reported: 06/27/94

Discard Date: 07/27/94
Date Submitted: 06/16/94
Date Sampled: 06/16/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.14	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	525	mg/l	5.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	7.17	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	347	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	1.57	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	40.3	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	473	mg/l	5.0
8259	Mercury by Cold Vapor AA Method: EPA 245.1	ND	mg/l	0.0005

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 20189
MSAI Group: 4982

Sample ID: CRS

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	466	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	21	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,580	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,860	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	1.3	mg/l	0.5
0235	Biochemical Oxygen Demand, Total Method: EPA 405.1	ND	mg/l	6
0242	Cyanide, Total Method: EPA 335.2	ND	mg/l	0.005
0434	Phenolics w/ww Method: EPA 420.1	ND	mg/l	0.01
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	43	mg/l	1
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,130	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside Cogeneration

Sample ID: CRC
Matrix: Waste Water

MSAI Sample: 20190
MSAI Group: 4982
Date Reported: 06/27/94

Discard Date: 07/27/94
Date Submitted: 06/16/94
Date Sampled: 06/16/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.06	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	479	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	2.03	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	333	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	0.56	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	37.1	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	498	mg/l	1.0
8259	Mercury by Cold Vapor AA Method: EPA 245.1	ND	mg/l	0.0005

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 20190
MSAI Group: 4982

Sample ID: CRC

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	390	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	8	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,500	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,800	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	ND	mg/l	0.5
0235	Biochemical Oxygen Demand, Total Method: EPA 405.1	ND	mg/l	6
0242	Cyanide, Total Method: EPA 335.2	ND	mg/l	0.005
0434	Phenolics w/ww Method: EPA 420.1	ND	mg/l	0.01
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	13	mg/l	1
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,160	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside Cogeneration

Sample ID: CRB
Matrix: Waste Water

MSAI Sample: 20191
MSAI Group: 4982
Date Reported: 06/27/94

Discard Date: 07/27/94
Date Submitted: 06/16/94
Date Sampled: 06/16/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	0.91	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	478	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	ND	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	321	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	ND	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	30.9	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	486	mg/l	1.0
8259	Mercury by Cold Vapor AA Method: EPA 245.1	ND	mg/l	0.0005

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 20191
MSAI Group: 4982

Sample ID: CRB

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	302	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	ND	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,170	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,530	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	ND	mg/l	0.5
0235	Biochemical Oxygen Demand, Total Method: EPA 405.1	ND	mg/l	6
0242	Cyanide, Total Method: EPA 335.2	ND	mg/l	0.005
0434	Phenolics w/ww Method: EPA 420.1	ND	mg/l	0.01
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	3	mg/l	1
1125	Sulfate, Turbidimetric Method: EPA 375.4	2,790	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

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Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside Cogeneration

Sample ID: CRS Dissolved
Matrix: Waste Water

MSAI Sample: 20192
MSAI Group: 4982
Date Reported: 06/27/94

Discard Date: 07/27/94
Date Submitted: 06/16/94
Date Sampled: 06/16/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved, w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.16	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	518	mg/L	5.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	0.15	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	344	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.52	mg/l	0.02
0259F	Mercury by Cold Vapor, Dissolved Method: SW-846 245.1	ND	mg/l	0.0005
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	40.4	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	475	mg/l	5

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 20192
MSAI Group: 4982

Sample ID: CRS Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside Cogeneration

Sample ID: CRC Dissolved
Matrix: Waste Water

MSAI Sample: 20193
MSAI Group: 4982
Date Reported: 06/27/94

Discard Date: 07/27/94
Date Submitted: 06/16/94
Date Sampled: 06/16/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved, w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.05	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	465	mg/L	1.0
J253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	0.14	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	327	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	0.54	mg/l	0.02
0259F	Mercury by Cold Vapor, Dissolved Method: SW-846 245.1	ND	mg/l	0.0005
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	36.7	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	490	mg/l	1

Mountain States Analytical
Total Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 20193
MSAI Group: 4982

Sample ID: CRC Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

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Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside Cogeneration

Sample ID: CRB Dissolved
Matrix: Waste Water

MSAI Sample: 20194
MSAI Group: 4982
Date Reported: 06/27/94

Discard Date: 07/27/94
Date Submitted: 06/16/94
Date Sampled: 06/16/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved, w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	0.91	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	469	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	315	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0259F	Mercury by Cold Vapor, Dissolved Method: SW-846 245.1	ND	mg/l	0.0005
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	30.2	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	477	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 20194
MSAI Group: 4982

Sample ID: CRB Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Mountain States Analytical

№ 3102

Sample Chain of Custody

Client Name: E.W.P. ENGINEERING P.O. #

Phone #: 266-0090 Fax #: 266-1671

Project Name/#: SUNNYSIDE COGENERATION

Sampler: Jim Comas

Analysis Required: COARSE REFUSE SEEP MONITORING

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total of Containers	Rush?	Remarks	Temp. of Samples Upon Receipt
CRS	6/16/94	1610		✓		✓		7			
CRC	6/16/94	1630		✓		✓		7			
CRB	6/16/94	1645		✓		✓		7			

Name of Shipper	Airbill No.	Date	Time	Sample relinquished by:	Date	Time	Sample received by:	Date	Time
				Jim Comas	6/17/94	0930	Jennifer Ford	06/17/94	0930

Received By (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): Normal Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date)

Rush results requested by (please circle): Phone Fax

Report Results to:

Type of Disposal:

Authorized for Disposal by:

Date/Time of Disposal:

Disposed of by:

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

White Copy - Original Retain by Lab Yellow Copy - Return to Customer Pink Copy - Retain by Sampler

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunny side

Sample ID: CRS
Matrix: Waste Water

MSAI Sample: 22104
MSAI Group: 5410
Date Reported: 08/03/94

Discard Date: 09/02/94
Date Submitted: 07/22/94
Date Sampled: 07/21/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.05	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	492	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	6.73	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	315	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	1.46	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	34.8	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	441	mg/l	1.0
8259	Mercury by Cold Vapor AA Method: EPA 245.1	ND	mg/l	0.0005

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 22104
MSAI Group: 5410

Sample ID: CRS

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	480	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	22	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,280	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,900	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	1.2	mg/l	0.5
0235	Biochemical Oxygen Demand, Total Method: EPA 405.1	< 6	mg/l	2
0242	Cyanide, Total Method: EPA 335.2	ND	mg/l	0.005
0434	Phenolics w/ww Method: EPA 420.1	ND	mg/l	0.01
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	52	mg/l	
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,210	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Mark W. Bostrom
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunny side

Sample ID: CRC
Matrix: Waste Water

MSAI Sample: 22105
MSAI Group: 5410
Date Reported: 08/03/94

Discard Date: 09/02/94
Date Submitted: 07/22/94
Date Sampled: 07/21/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.04	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	441	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	3.99	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	308	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	0.68	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	33.7	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	428	mg/l	1.0
8259	Mercury by Cold Vapor AA Method: EPA 245.1	ND	mg/l	0.0005

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 22105
MSAI Group: 5410

Sample ID: CRC

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	394	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	28	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,550	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,840	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	ND	mg/l	0.5
0235	Biochemical Oxygen Demand, Total Method: EPA 405.1	< 6	mg/l	2
0242	Cyanide, Total Method: EPA 335.2	ND	mg/l	0.005
0434	Phenolics w/ww Method: EPA 420.1	ND	mg/l	0.01
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	25	mg/l	
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,430	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Mark W. Bostrom
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunny side

Sample ID: CRB
Matrix: Waste Water

MSAI Sample: 22106
MSAI Group: 5410
Date Reported: 08/03/94

Discard Date: 09/02/94
Date Submitted: 07/22/94
Date Sampled: 07/21/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	0.90	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	452	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	ND	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	303	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	ND	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	28.0	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	440	mg/l	1.0
8259	Mercury by Cold Vapor AA Method: EPA 245.1	ND	mg/l	0.0005

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 22106
MSAI Group: 5410

Sample ID: CRB

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	306	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	ND	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,190	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,610	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	ND	mg/l	0.5
0235	Biochemical Oxygen Demand, Total Method: EPA 405.1	< 2	mg/l	2
0242	Cyanide, Total Method: EPA 335.2	ND	mg/l	0.005
0434	Phenolics w/ww Method: EPA 420.1	ND	mg/l	0.01
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	8	mg/l	
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,140	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Mark W. Bostrom
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunny side

Sample ID: CRS dissolved
Matrix: Waste Water

MSAI Sample: 22107
MSAI Group: 5410
Date Reported: 08/03/94

Discard Date: 09/02/94
Date Submitted: 07/22/94
Date Sampled: 07/21/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved, w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.12	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	515	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	0.31	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	334	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.49	mg/l	0.02
0259F	Mercury by Cold Vapor, Dissolved Method: SW-846 245.1	ND	mg/l	0.0005
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	37.4	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	477	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 22107
MSAI Group: 5410

Sample ID: CRS dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Mark W. Bostrom
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunny side

Sample ID: CRC dissolved
Matrix: Waste Water

MSAI Sample: 22108
MSAI Group: 5410
Date Reported: 08/03/94

Discard Date: 09/02/94
Date Submitted: 07/22/94
Date Sampled: 07/21/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved, w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.10	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	466	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	0.23	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	330	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	0.62	mg/l	0.02
0259F	Mercury by Cold Vapor, Dissolved Method: SW-846 245.1	ND	mg/l	0.0005
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	36.8	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	468	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 22108
MSAI Group: 5410

Sample ID: CRC dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Mark W. Bostrom
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunny side

Sample ID: CRB dissolved
Matrix: Waste Water

MSAI Sample: 22109
MSAI Group: 5410
Date Reported: 08/03/94

Discard Date: 09/02/94
Date Submitted: 07/22/94
Date Sampled: 07/21/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved, w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	0.86	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	431	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	0.13	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	288	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0259F	Mercury by Cold Vapor, Dissolved Method: SW-846 245.1	ND	mg/l	0.0005
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	26.7	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	415	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 22109
MSAI Group: 5410

Sample ID: CRB dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Mark W. Bostrom
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Mountain States Analytical

№ 3263

Sample Chain of Custody

Client Name: E.W.P. ENGINEERING P.O. #

Phone #: 1-801-261-0090 Fax #: 1-801-266-1671

Project Name/#: SUNNYSIDE

Sampler: J.C.

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total of Containers	Analysis Required: COARSE REFUSE SEEP	Rush?	Remarks	Temp. of Samples Upon Receipt
CRS	7/21/94	1630		✓		✓		7				
CRC	7/21/94	1700		✓		✓		7				
CRB	7/21/94	1730		✓		✓		7				
dissolved CRS								1	dissolved metals			
↓ CRC								↓	↓			
↓ CRB								↓	↓			

Name of Shipper	Airbill No.	Date	Time

Received By (Lab)	Date	Time	Seals Intact?

Sample relinquished by:	Date	Time	Sample received by:	Date	Time
Jim Comas	7/22/94	1235	Erik Haugen	07-22-94	1235

Turnaround Time Requested (please circle): Normal Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date)

Rush results requested by (please circle): Phone Fax

Report Results to:

Type of Disposal:

Authorized for Disposal by:

Date/Time of Disposal:

Disposed of by:

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

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Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRS
Matrix: Waste Water

MSAI Sample: 23532
MSAI Group: 5810
Date Reported: 09/09/94

Discard Date: 10/09/94
Date Submitted: 08/29/94
Date Sampled: 08/25/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.03	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	473	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	7.07	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	301	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	1.35	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	33.9	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	421	mg/l	1.0
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1 Bicarbonate	480	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 23532
MSAI Group: 5810

Sample ID: CRS

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	18	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,190	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	3,000	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	1.2	mg/l	0.5
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	60.4	mg/l	1.0
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,310	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRC
Matrix: Waste Water

MSAI Sample: 23533
MSAI Group: 5810
Date Reported: 09/09/94

Discard Date: 10/09/94
Date Submitted: 08/29/94
Date Sampled: 08/25/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.10	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	485	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	3.47	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	341	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	0.87	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	36.7	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	474	mg/l	1.0
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1 Bicarbonate	388	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 23533
MSAI Group: 5810

Sample ID: CRC

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	17	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,330	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,850	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	ND	mg/l	0.5
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	36.2	mg/l	1.0
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,330	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRB
Matrix: Waste Water

MSAI Sample: 23534
MSAI Group: 5810
Date Reported: 09/09/94

Discard Date: 10/09/94
Date Submitted: 08/29/94
Date Sampled: 08/25/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	0.91	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	464	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	ND	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	313	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	ND	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	28.9	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	448	mg/l	1.0
0201	Alkalinity as $CaCO_3$ (pH 4.5) Method: EPA 310.1 Bicarbonate	314	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 23534
MSAI Group: 5810

Sample ID: CRB

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	ND	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,120	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,730	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	ND	mg/l	0.5
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	20.0	mg/l	1.0
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,560	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

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Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRS Dissolved
Matrix: Waste Water

MSAI Sample: 23535
MSAI Group: 5810
Date Reported: 09/09/94

Discard Date: 10/09/94
Date Submitted: 08/29/94
Date Sampled: 08/25/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved, w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.06	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	474	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	0.55	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	304	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.33	mg/l	0.02
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	34.5	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	435	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 23535
MSAI Group: 5810

Sample ID: CRS Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

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Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRC Dissolved
Matrix: Waste Water

MSAI Sample: 23536
MSAI Group: 5810
Date Reported: 09/09/94

Discard Date: 10/09/94
Date Submitted: 08/29/94
Date Sampled: 08/25/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved, w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.13	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	487	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	0.29	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	344	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	0.56	mg/l	0.02
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	37.6	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	487	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 23536
MSAI Group: 5810

Sample ID: CRC Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

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Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRB Dissolved
Matrix: Waste Water

MSAI Sample: 23537
MSAI Group: 5810
Date Reported: 09/09/94

Discard Date: 10/09/94
Date Submitted: 08/29/94
Date Sampled: 08/25/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved, w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	0.95	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	483	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	327	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	30.2	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	465	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 23537
MSAI Group: 5810

Sample ID: CRB Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Mountain States Analytical

№ 3375

Sample Chain of Custody

Client Name: E.W.P. ENGINEERING P.O. #

Phone #: 261-0090 Fax #:

Project Name/#: SUNNYSIDE

Sampler: Jim Comas

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total of Containers	Water Quality	Total Metals	Diss. Metals	Arsenic					Rush?	Remarks	Temp. of Samples Upon Receipt
CR5	8-25-94	1805	✓			✓			X	X	X	X							
CRC	8-25-94	1830	✓			✓			X	X	X	X							
CRB	8-25-94	1845	✓			✓			X	X	X	X							

Name of Shipper	Airbill No.	Date	Time
J.C. / E.W.P.		8-29-94	1007

Received By (Lab)	Date	Time	Seals Intact?
[illegible]	08/29/94	1007	n/a

Sample relinquished by:	Date	Time	Sample received by:	Date	Time

Turnaround Time Requested (please circle): Normal Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date)

Rush results requested by (please circle): Phone Fax

Report Results to:

Type of Disposal:

Authorized for Disposal by:

Date/Time of Disposal:

Disposed of by:

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

White Copy - Original Retain by Lab Yellow Copy - Return to Customer Pink Copy - Retain by Sampler

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRS - Source
Matrix: Waste Water

MSAI Sample: 24548
MSAI Group: 6059
Date Reported: 10/05/94

Discard Date: 11/04/94
Date Submitted: 09/22/94
Date Sampled: 09/20/94
Collected by: JAM
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.01	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	471	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	8.78	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	297	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	1.43	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	35.7	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	437	mg/l	5
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1 Bicarbonate	470	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 24548
MSAI Group: 6059

Sample ID: CRS - Source

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	67	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,490	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,650	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	1.7	mg/l	0.5
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	72	mg/l	
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,260	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

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Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRC - Culvert
Matrix: Waste Water

MSAI Sample: 24549
MSAI Group: 6059
Date Reported: 10/05/94

Discard Date: 11/04/94
Date Submitted: 09/22/94
Date Sampled: 09/20/94
Collected by: JAM
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.04	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	445	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	15.6	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	309	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	1.41	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	36.5	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	441	mg/l	5
0201	Alkalinity as $CaCO_3$ (pH 4.5) Method: EPA 310.1 Bicarbonate	386	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 24549
MSAI Group: 6059

Sample ID: CRC - Culvert

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	14	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,680	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,950	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	ND	mg/l	0.5
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	22	mg/l	
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,820	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

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Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRB - Boundary
Matrix: Waste Water

MSAI Sample: 24550
MSAI Group: 6059
Date Reported: 10/05/94

Discard Date: 11/04/94
Date Submitted: 09/22/94
Date Sampled: 09/20/94
Collected by: JAM
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	0.82	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	441	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	ND	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	295	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	0.07	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	28.2	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	426	mg/l	5
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1 Bicarbonate	322	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 24550
MSAI Group: 6059

Sample ID: CRB - Boundary

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	ND	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,240	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,550	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	ND	mg/l	0.5
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	12	mg/l	
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,070	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

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Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRS - Source ~~Dissolved~~ TOTAL
Matrix: Waste Water

MSAI Sample: 24551
MSAI Group: 6059
Date Reported: 10/05/94

Discard Date: 11/04/94
Date Submitted: 09/22/94
Date Sampled: 09/20/94
Collected by:
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved, w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.03	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	476	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	8.84	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	303	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.45	mg/l	0.02
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	36.3	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	440	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 24551
MSAI Group: 6059

Sample ID: CRS - Source ~~Dissolved~~

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

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Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRC - Culvert ~~Dissolved~~ TOTAL
Matrix: Waste Water

MSAI Sample: 24552
MSAI Group: 6059
Date Reported: 10/05/94

Discard Date: 11/04/94
Date Submitted: 09/22/94
Date Sampled: 09/20/94
Collected by:
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved, w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.08	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	453	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	3.90	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	320	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.13	mg/l	0.02
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	38.2	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	461	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 24552
MSAI Group: 6059

Sample ID: CRC - Culvert ~~Dissolved~~

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

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Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRB - Boundary ~~Dissolved~~ TOTAL
Matrix: Waste Water

MSAI Sample: 24553
MSAI Group: 6059
Date Reported: 10/05/94

Discard Date: 11/04/94
Date Submitted: 09/22/94
Date Sampled: 09/20/94
Collected by:
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved, w/ww Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	0.79	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	432	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	287	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	0.07	mg/l	0.02
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	27.0	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	406	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 24553
MSAI Group: 6059

Sample ID: CRB - Boundary ~~Dissolved~~ TOTAL

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

№ 3787

Mountain States Analytical

Sample Chain of Custody

Client Name: EWP Engineering P.O. #
Phone #: 801-261-0090 Fax #: 801-266-1671
Project Name/#: Sunnyside - EC 450593
Sampler: John A. Martin

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total of Containers	Analysis Required	Rush?	Remarks	Temp. of Samples Upon Receipt
CRS - Source	9/20/94	1435				X		4				7.0°C
CRC - Culvert	9/20/94	1530				X		4				
CRB - Boundary	9/20/94	1630				X		4				

Analysis Reqd As per previous sampling events

Name of Shipper	Airbill No.	Date	Time
UPS	3173455585	9/21/94	1400

Received By (Lab)	Date	Time	Seals Intact?
[illegible]	09/22/94	1415	yes

Sample relinquished by:	Date	Time	Sample received by:	Date	Time
John A Martin	9/21/94	1030			

Turnaround Time Requested (please circle): Normal Rush
(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date)

Rush results requested by (please circle): Phone Fax

Report Results to: Scott Carlson
EWP Engineering 112 E. 3980 South C-100
Salt Lake City, UT 84124

Type of Disposal: Authorized for Disposal by:

Date/Time of Disposal: Disposed of by:

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

White Copy - Original Retain by Lab Yellow Copy - Return to Customer Pink Copy - Retain by Sampler

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRS-Dissolved
Matrix: Waste Water

MSAI Sample: 25448
MSAI Group: 6260
Date Reported: 10/25/94

Discard Date: 11/24/94
Date Submitted: 10/13/94
Date Sampled: 10/12/94
Collected by: JC
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved 6010A Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.13	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	503	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	318	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.47	mg/l	0.02
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	37.5	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	466	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 25448
MSAI Group: 6260

Sample ID: CRS-Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Pamela K. Olsen

Rolf E. Larsen
Project Manager for

1645 West 2200 South, Salt Lake City, Utah 84119 (801)973-0050 1-800-973-MSAI FAX (801)973-6278

MEMBER ACIL

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRC-Dissolved
Matrix: Waste Water

MSAI Sample: 25449
MSAI Group: 6260
Date Reported: 10/25/94

Discard Date: 11/24/94
Date Submitted: 10/13/94
Date Sampled: 10/12/94
Collected by: JC
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved 6010A Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.14	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	483	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	338	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.30	mg/l	0.02
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	39.2	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	491	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 25449
MSAI Group: 6260

Sample ID: CRC-Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Pamela K. Olsen for
Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801)973-0050 1-800-973-MSAI FAX (801)973-6278

MEMBER ACIL

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRB-Dissolved
Matrix: Waste Water

MSAI Sample: 25450
MSAI Group: 6260
Date Reported: 10/25/94

Discard Date: 11/24/94
Date Submitted: 10/13/94
Date Sampled: 10/12/94
Collected by: JC
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved 6010A Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	0.86	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	470	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	313	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	0.19	mg/l	0.02
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	29.2	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	453	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 25450
MSAI Group: 6260

Sample ID: CRB-Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Pamela K. Olsen for
Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801)973-0050 1-800-973-MSAI FAX (801)973-6278

MEMBER ACIL

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRS
Matrix: Waste Water

MSAI Sample: 25451
MSAI Group: 6260
Date Reported: 10/25/94

Discard Date: 11/24/94
Date Submitted: 10/13/94
Date Sampled: 10/12/94
Collected by: JC
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
7254	Iron by ICP Method: SW-846 6010A	8.99	mg/l	0.10
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	21	mg/l	4

Respectfully Submitted,
Reviewed and Approved by:

Pamela K. Olsen for
Rolf E. Larsen
Project Manager

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRC
Matrix: Waste Water

MSAI Sample: 25452
MSAI Group: 6260
Date Reported: 10/25/94

Discard Date: 11/24/94
Date Submitted: 10/13/94
Date Sampled: 10/12/94
Collected by: JC
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
7254	Iron by ICP Method: SW-846 6010A	3.50	mg/l	0.10
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	9	mg/l	4

Respectfully Submitted,
Reviewed and Approved by:

Pamela K. Olsen for
Rolf E. Larsen
Project Manager

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRB
Matrix: Waste Water

MSAI Sample: 25453
MSAI Group: 6260
Date Reported: 10/25/94

Discard Date: 11/24/94
Date Submitted: 10/13/94
Date Sampled: 10/12/94
Collected by: JC
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
7254	Iron by ICP Method: SW-846 6010A	0.14	mg/l	0.10
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	ND	mg/l	4

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Pamela K. Olsen for
Rolf E. Larsen
Project Manager

№ 4007

Mountain States Analytical

Sample Chain of Custody

REL

Client Name: E.W.P. ENGINEERING P.O. #

Phone #: 801-261-0090 Fax #: 1-801-266-1671

Project Name/#: SUNNYSIDE EC 45 05 93

Sampler: J. Comas

*CONTACT SCOTT CARLSON @ E.W.P. OFFICE

Analysis Required: COARSE REFUSE SEEP

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total of Containers	Rush?	Remarks	Temp. of Samples Upon Receipt
CRS	10-12-94	1600	✓			✓		3			
CRC	10-12-94	1630	✓			✓		3			
CRB	10-12-94	1650	✓			✓		3			

Name of Shipper	Airbill No.	Date	Time

Received By (Lab)	Date	Time	Seals Intact?
Mal Boston	10/13/94	15:08	OK!

Sample relinquished by:	Date	Time	Sample received by:	Date	Time
J. Comas	10-13-94	1508			

Turnaround Time Requested (please circle): Normal Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date)

Rush results requested by (please circle): Phone Fax

Report Results to:

Type of Disposal:

Date/Time of Disposal:

Authorized for Disposal by:

Disposed of by:

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

[redacted] Whi[redacted]y - O[redacted] Reta[redacted]ab [redacted]v Co[redacted]turn [redacted]tome[redacted]k Co[redacted]etain [redacted]mpler [redacted]

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRS
Matrix: Waste Water

MSAI Sample: 26143
MSAI Group: 6408
Date Reported: 11/09/94

Discard Date: 12/09/94
Date Submitted: 10/28/94
Date Sampled: 10/27/94
Collected by: JC
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.10	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	500	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	8.73	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	316	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	1.45	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	37.0	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	455	mg/l	10
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1 Bicarbonate	486	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 26143
MSAI Group: 6408

Sample ID: CRS

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	20	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,450	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,850	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	1.7	mg/l	0.5
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	59	mg/l	
1125	Sulfate, Turbidimetric Method: EPA 375.4	4,220	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801)973-0050 1-800-973-MSAI FAX (801)973-6278

MEMBER ACIL

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRC
Matrix: Waste Water

MSAI Sample: 26144
MSAI Group: 6408
Date Reported: 11/09/94

Discard Date: 12/09/94
Date Submitted: 10/28/94
Date Sampled: 10/27/94
Collected by: JC
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.08	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	493	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	4.48	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	344	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	1.14	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	36.6	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	486	mg/l	10
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1 Bicarbonate	424	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 26144
MSAI Group: 6408

Sample ID: CRC

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	29	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,520	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,860	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	ND	mg/l	0.5
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	31	mg/l	
1125	Sulfate, Turbidimetric Method: EPA 375.4	2,650	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801)973-0050 1-800-973-MSAI FAX (801)973-6278

MEMBER ACIL

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRB
Matrix: Waste Water

MSAI Sample: 26145
MSAI Group: 6408
Date Reported: 11/09/94

Discard Date: 12/09/94
Date Submitted: 10/28/94
Date Sampled: 10/27/94
Collected by: JC
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	0.85	mg/l	0.10
7243	Aluminum by ICP Method: SW-846 6010A	ND	mg/l	0.20
7250	Calcium by ICP Method: SW-846 6010A	454	mg/l	1.0
7253	Copper by ICP Method: SW-846 6010A	ND	mg/l	0.02
7254	Iron by ICP Method: SW-846 6010A	0.12	mg/l	0.10
7257	Magnesium by ICP Method: SW-846 6010A	303	mg/l	1.0
7258	Manganese by ICP Method: SW-846 6010A	0.21	mg/l	0.02
7261	Nickel by ICP Method: SW-846 6010A	ND	mg/l	0.040
7262	Potassium by ICP Method: SW-846 6010A	27.8	mg/l	1.0
7267	Sodium by ICP Method: SW-846 6010A	428	mg/l	10
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1 Bicarbonate	348	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 26145
MSAI Group: 6408

Sample ID: CRB

Test	Analysis	Results as Received	Units	Limit of Quantitation
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	ND	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,190	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,740	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	ND	mg/l	0.5
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	2	mg/l	
1125	Sulfate, Turbidimetric Method: EPA 375.4	2,590	mg/l	2

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801)973-0050 1-800-973-MSAI FAX (801)973-6278

MEMBER ACIL

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRS Dissolved
Matrix: Waste Water

MSAI Sample: 26146
MSAI Group: 6408
Date Reported: 11/09/94

Discard Date: 12/09/94
Date Submitted: 10/28/94
Date Sampled: 10/27/94
Collected by: JC
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	0.96	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	432	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	0.18	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	274	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.26	mg/l	0.02
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	32.0	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	395	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 26146
MSAI Group: 6408

Sample ID: CRS Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801)973-0050 1-800-973-MSAI FAX (801)973-6278

MEMBER ACIL

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRC Dissolved
Matrix: Waste Water

MSAI Sample: 26148
MSAI Group: 6408
Date Reported: 11/09/94

Discard Date: 12/09/94
Date Submitted: 10/28/94
Date Sampled: 10/27/94
Collected by: JC
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.13	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	473	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	340	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.32	mg/l	0.02
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	38.1	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	485	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 26148
MSAI Group: 6408

Sample ID: CRC Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801)973-0050 1-800-973-MSAI FAX (801)973-6278

MEMBER ACIL

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: Sunnyside

Sample ID: CRB Dissolved
Matrix: Waste Water

MSAI Sample: 26149
MSAI Group: 6408
Date Reported: 11/09/94

Discard Date: 12/09/94
Date Submitted: 10/28/94
Date Sampled: 10/27/94
Collected by: JC
Purchase Order:
Project No.: EC450593

Test	Analysis	Results as Received	Units	Limit of Quantitation
0243D	Aluminum by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.2
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	0.88	mg/l	0.10
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	469	mg/L	1.0
0253F	Copper by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.02
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	316	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	0.22	mg/l	0.02
0261F	Nickel by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.04
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	29.0	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	448	mg/l	1

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 26149
MSAI Group: 6408

Sample ID: CRB Dissolved

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801)973-0050 1-800-973-MSAI FAX (801)973-6278

MEMBER ACIL

Mountain States Analytical

№ 4155

Sample Chain of Custody

Client Name: E.W.P. ENGINEERING P.O. #

Phone #: 261-0090 Fax #:

Project Name/#: SUNNYSIDE EC 45 05 93

Sampler: J. COMAS

CONTACT AT E.W.P. OFFICE - SCOTT CARLSON

Analysis Required: COARSE REFUSE SEEP

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total of Containers	Rush?	Remarks	Temp. of Samples Upon Receipt
CRS	10-27-94	1430	✓			✓		4			
CRC	10-27-94	1445	✓			✓		4			
CRB	10-27-94	1530	✓			✓		4			

Name of Shipper	Airbill No.	Date	Time

Received By (Lab)	Date	Time	Seals Intact?
[signature]	10/28/94	1535	n/a

Sample relinquished by:	Date	Time	Sample received by:	Date	Time
[signature]	10-28-94	1535			

Turnaround Time Requested (please circle): Normal Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date)

Rush results requested by (please circle): Phone Fax

Report Results to:

Type of Disposal:

Authorized for Disposal by:

Date/Time of Disposal:

Disposed of by:

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

White Copy - Original Retain by Lab Yellow Copy - Return to Customer Pink Copy - Retain by Sampler

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: EC 45 05 93

Sample ID: CRS
Matrix: Waste Water

MSAI Sample: 27424
MSAI Group: 6692
Date Reported: 12/09/94

Discard Date: 01/08/95
Date Submitted: 11/23/94
Date Sampled: 11/22/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.1	mg/l	0.3
7254	Iron by ICP Method: SW-846 6010A	7.19	mg/l	0.10
7258	Manganese by ICP Method: SW-846 6010A	1.46	mg/l	0.02
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	460	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	16	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,430	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,730	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	1.5	mg/l	0.5
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	101	mg/l	1.0
1125	Sulfate, Turbidimetric Method: EPA 375.4	629	mg/l	2

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 27424
MSAI Group: 6692

Sample ID: CRS

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801)973-0050 1-800-973-MSAI FAX (801)973-6278

MEMBER ACIL

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: EC 45 05 93

Sample ID: CRC
Matrix: Waste Water

MSAI Sample: 27425
MSAI Group: 6692
Date Reported: 12/09/94

Discard Date: 01/08/95
Date Submitted: 11/23/94
Date Sampled: 11/22/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.1	mg/l	0.3
7254	Iron by ICP Method: SW-846 6010A	7.49	mg/l	0.10
7258	Manganese by ICP Method: SW-846 6010A	1.24	mg/l	0.02
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	420	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	18	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,660	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,710	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	0.6	mg/l	0.5
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	49.4	mg/l	1.0
1125	Sulfate, Turbidimetric Method: EPA 375.4	652	mg/l	2

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 27425
MSAI Group: 6692

Sample ID: CRC

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

RElarsen

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801)973-0050 1-800-973-MSAI FAX (801)973-6278

MEMBER ACIL

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: EC 45 05 93

Sample ID: CRB
Matrix: Waste Water

MSAI Sample: 27426
MSAI Group: 6692
Date Reported: 12/09/94

Discard Date: 01/08/95
Date Submitted: 11/23/94
Date Sampled: 11/22/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	0.8	mg/l	0.3
7254	Iron by ICP Method: SW-846 6010A	ND	mg/l	0.10
7258	Manganese by ICP Method: SW-846 6010A	0.24	mg/l	0.02
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	342	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	ND	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	5,200	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,560	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	ND	mg/l	0.5
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	12.2	mg/l	1.0
1125	Sulfate, Turbidimetric Method: EPA 375.4	643	mg/l	2

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering

MSAI Sample: 27426
MSAI Group: 6692

Sample ID: CRB

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801)973-0050 1-800-973-MSAI FAX (801)973-6278

MEMBER ACIL

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: EC 45 05 93

Sample ID: CRS Dissolved
Matrix: Waste Water

MSAI Sample: 27427
MSAI Group: 6692
Date Reported: 12/09/94

Discard Date: 01/08/95
Date Submitted: 11/23/94
Date Sampled: 11/22/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.2	mg/l	0.3
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	542	mg/L	1.0
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	1.36	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	345	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.60	mg/l	0.02
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	40.3	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	526	mg/l	5

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: EC 45 05 93

Sample ID: CRC Dissolved
Matrix: Waste Water

MSAI Sample: 27428
MSAI Group: 6692
Date Reported: 12/09/94

Discard Date: 01/08/95
Date Submitted: 11/23/94
Date Sampled: 11/22/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	1.1	mg/l	0.3
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	486	mg/L	1.0
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	0.59	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	349	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.34	mg/l	0.02
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	36.5	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	527	mg/l	5

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801)973-0050 1-800-973-MSAI FAX (801)973-6278

MEMBER ACIL

Analytical Report

Mountain States Analytical
The Quality Solution

Eckhoff, Watson & Preator Engineering
1121 East 3900 South
Suite C100
Salt Lake City, UT 84124

Attn: Mr. Scott Carlson
Project: EC 45 05 93

Sample ID: CRB Dissolved
Matrix: Waste Water

MSAI Sample: 27429
MSAI Group: 6692
Date Reported: 12/09/94

Discard Date: 01/08/95
Date Submitted: 11/23/94
Date Sampled: 11/22/94
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248D	Boron by ICP, Dissolved Method: SW-846 6010A	0.8	mg/l	0.3
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	476	mg/L	1.0
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	311	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	0.25	mg/l	0.02
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	27.2	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	475	mg/l	5

ND - Not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

Mountain States Analytical

№ 4239

Sample Chain of Custody

Client Name: F.W.P. ENGINEERING P.O. #

Phone #: 801-261-0090 Fax #:

Project Name/#: EC 45 05 93

Sampler: Jim Comas

Analysis Required: COARSE REFUSE SEEP

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total of Containers	Rush?	Remarks	Temp. of Samples Upon Receipt
CRS	11/22/94	1445	✓			✓		4			
CRC	11/22/94	1500	✓			✓		4			
CRB	11/22/94	1530	✓			✓		4			

Name of Shipper	Airbill No.	Date	Time

Received By (Lab)	Date	Time	Seals Intact?

Sample relinquished by:	Date	Time	Sample received by:	Date	Time
[signature]	11/23/94	1700	[signature]	11/23/94	1700

Turnaround Time Requested (please circle): Normal Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date)

Rush results requested by (please circle): Phone Fax

Report Results to:

Type of Disposal:

Authorized for Disposal by:

Date/Time of Disposal:

Disposed of by:

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Whit[redacted]y - Or[redacted] Retai[redacted]ab [redacted] Cop[redacted]urn t[redacted]omer[redacted]k Co[redacted]tain [redacted]mpler

ATTACHMENT D

SUNNYSIDE COGENERATION ASSOCIATES

Carbon County, UT

EWP ENGINEERING

Salt Lake City, UT

COARSE REFUSE SEEP MONITORING

V-NOTCH WEIR AT SOURCE (CRS)

Date	Time	Personel	Weather	Flow (feet)	Flow (gpm)	Temp C	pH	SC mS ~~(umhos)~~	DO (mg/l)
5/19/94	1600	J.C.	PTLY CLDY 65°	0.14	8.5	25.5	6.8	5.5	4.2
5/27/94	1315	J.C.	PTLY CLDY 70°	0.16	12.0	25.8	6.6	5.6	3.6
6/8/94	1050	J.C.	CLEAR 60°	0.14	8.5	24.4	6.6	5.5	4.0
6/16/94	1338	J.C.	CLEAR 75°	0.13	7.1	26.97	6.6	5.48	3.8
6/23/94	1615	J.C.	CLEAR 80°	0.13	7.1	27.92	6.6	5.5	2.6
6/30/94	0855	J.C.	CLEAR 70°	0.13	7.1	24.32	6.7	5.5	1.1
7/8/94	1115	J.C	CLEAR 78°	0.13	7.1	25.61	6.8	5.5	1.2
7/14/94	1250	J.C	CLEAR 85°	0.13	7.1	26.01	6.6	5.5	1.9
7/21/94	1415	J.C.	CLEAR 90°	0.13	7.1	26.6	6.8	5.5	1.5
7/28/94	0945	J.C.	CLEAR 80°	0.13	7.1	25.27	6.9	5.56	1.0
8/4/94	1005	J.C.	CLEAR 80°	0.14	8.5	25.52	6.9	5.5	1.1
8/11/94	1035	J.C.	CLEAR 80°	0.13	7.1	25.18	6.9	5.5	1.4
8/19/94	1005	J.C.	CLOUDY 70°	0.13	7.1	24.6	6.9	5.5	2.0
8/26/94	0915	J.C.	CLEAR 75°	0.13	7.1	23.9	6.9	5.5	1.5
8/31/94	1630	J.C.	CLEAR 80°	0.12	5.8	25.6	6.9	5.5	1.2
9/9/94	1035	J.C.	CLEAR 70°	0.12	5.8	24.9	7.0	5.5	1.5
9/16/94	1030	J.C.	CLEAR 70°	0.12	5.8	23.3	7.2	5.5	1.6
9/20/94	1435	J.Martin	Cloudy/rain 65°	0.14	8.5	23.74	7.12	5.48	1.57
9/29/94	1010	J.C.	CLOUDY/RAIN 65°	0.13	7.1	24.3	7.2	5.5	1.4
10/6/94	1240	J.C.	PTLY CLDY 55°	0.14	8.5	22.8	7.2	5.5	1.4
10/13/94	1030	J.C	CLEAR 50°	0.13	7.1	22.7	7.3	5.5	1.6
10/21/94	1300	J.C.	CLEAR 50°	0.13	7.1	23.1	7.3	5.5	1.5
10/28/94	1020	J.C.	CLEAR 50°	0.11	4.7	22.1	7.4	5.0	1.6
11/4/94	1000	J.C	CLDY 45°	0.11	4.7	22.3	7.3	5.4	1.5
11/9/94	1445	J.C	CLEAR 50°	0.11	4.7	22.4	7.4	5.5	1.6
11/17/94	1430	J.C.	CLDY 40°	0.11	4.7	22.4	7.4	5.4	1.8

SUNNYSIDE COGENERATION ASSOCIATES

Carbon County, UT

EWP ENGINEERING

Salt Lake City, UT

COARSE REFUSE SEEP MONITORING

V-NOTCH WEIR AT SOURCE (CRS)

Date	Time	Personel	Weather	Flow (feet)	Flow (gpm)	Temp C	pH	SC (umhos)	DO (mg/l)
11/22/94	1445	J.C.	CLEAR 32°	0.11	4.7	18.10	7.5	5.5	2.3
12/9/94	1400	J.C.	CLEAR 25°	0.08	2.1	17.9	7.7	5.5	2.7

SUNNYSIDE COGENERATION ASSOCIATES

Carbon County, UT

EWP ENGINEERING

Salt Lake City, UT

COARSE REFUSE SEEP MONITORING

V-NOTCH WEIR AT SOURCE (CRS)

Date	Time	Personel	Weather	Flow (feet)	Flow (gpm)	Temp C	pH	SC (umhos)	DO (mg/l)
11/22/94	1445	J.C.	CLEAR 32°±	0.11	4.7	18.10	7.5	5.5	2.3
12/9/94	1400	J.C.	CLEAR 25°±	0.08	2.1	17.9	7.7	5.5	2.7
12/15/94	1315	J.C.	PTLY CLDY 25°±	0.09	2.8	17.3	7.7	3.0	2.8
12/22/94	1400	J.C.	PTLY CLDY 35°±	0.09	2.8	18.1	7.6	5.5	2.8
1/6/95	1020	J.C.	CLEAR 25°±	0.08	2.1	17.3	7.8	5.4	2.7
1/12/95	1245	J.C	PTLY CLDY 30°±	0.08	2.1	17.5	7.8	5.5	2.6
1-21-95	1420	J.C.	CLOUDY 35°±	.08	2.1	17.6	7.8	5.4	2.0
1-27-95	1400	J.C	CLDY 32°±	.08	2.1	17.3	7.8	5.5	2.4
2-1-95	1300	J.C.	CLEA 40°±	.08	2.1	18.1	7.8	2.6	2.0

SUNNYSIDE COGENERATION ASSOCIATES

Carbon County, UT

EWP ENGINEERING

Salt Lake City, UT

COARSE REFUSE SEEP MONITORING

V-NOTCH WEIR @ CULVERT (CRC)

Date	Time	Personel	Weather	Flow (feet)	Flow (gpm)	Temp C	pH	SC mS (~~umhos~~)	DO (mg/l)
5/19/94	1630	J.C.	PTLY CLDY 65°	.23	29	15.92	7.60	5.62	6.15
5/27/94	1330	J.C.	PTLY CLDY 70°	.25	36	17.79	7.2	5.6	6.04
6/8/94	1100	J.C	CLEAR 60°	.26	40	16.97	7.3	5.6	7.00
6/16/94	1323	J.C	CLEAR 75°	.23	29	19.06	7.3	5.62	6.33
6/23/94	1630	J.C.	CLEAR 80°	.23	29	20.37	7.3	5.6	5.5
6/30/94	0910	J.C	CLEAR 70°	.24	32	18.10	7.3	5.66	5.6
7/8/94	1125	J.C.	CLEAR 78°	.24	32	18.8	7.4	5.67	5.7
7/14/94	1300	J.C	CLEAR 85°	.24	32	20.3	7.4	5.68	5.7
7/21/94	1445	J.C	CLEAR 90°	.23	29	21.2	7.5	5.7	5.0
7/29/94	1000	J.C	CLEAR 80°	.24	32	19.8	7.5	5.7	5.3
8/4/94	1020	J.C.	CLEAR 80°	.24	32	20.6	7.5	5.8	5.2
8/11/94	1050	J.C	CLEAR 80°	.24	32	19.7	7.6	5.7	5.1
8/19/94	1020	J.C.	CLOUDY 70°	.24	32	19.4	7.6	5.7	5.8
8/26/94	0930	J.C.	CLEAR 75°	.24	32	19.5	7.6	5.7	5.3
8/31/94	1645	J.C	CLEAR 80°	.24	32	20.7	7.6	5.8	5.2
* 9/9/94	1050	J.C.	CLEAR 70°	.28	48	20.1	7.5	5.2	4.9
* 9/16/94	1045	J.C.	CLEAR 70°	.28	48	18.0	7.8	5.6	6.0
* 9/20/94	1530	J.Martin	Cloudy/Rain 65°	.27	52	17.80	7.98	5.51	6.10
9/29/94	1030	J.C.	CLOUDY/RAIN 65°	.24	32	18.7	7.8	5.7	5.3
10/6/94	1300	J.C.	PTLY CLDY 55°	.24	32	16.7	7.9	5.7	5.5
10/13/94	1045	J.C.	CLEAR 50°	.24	32	17.8	7.9	5.7	5.4
10/21/94	1320	J.C.	CLEAR 50°	.24	32	14.9	8.3	5.7	7.0
10/28/94	1035	J.C.	CLEAR 50°	.23	29	15.2	7.9	5.7	5.8
11/4/94	1015	J.C.	CLDY 45°	.23	29	14.7	7.9	5.7	5.9
11/9/95	1500	J.C.	CLEAR 50°	.23	29	14.4	7.9	5.7	5.8
11/17/94	1445	J.C.	CLDY 40°	.22	26	14.0	7.9	5.6	5.9

* NOTE: AREA IN FRONT OF WEIR HAS BEEN FILLED IN WITH SEDIMENT RESULTING FROM STORM THAT TOOK PLACE ON 9-2-94 1" OF RAIN IN ONE HOUR WAS RECORDED AT SUNNYSIDE WEATHER STA. FLOW IS NOT ACCURATE AT TIME OF MONITORING. POOL NEEDS TO BE CLEANED OUT IN FRONT OF WIER. J.C. 9-9-94

SUNNYSIDE COGENERATION ASSOCIATES

Carbon County, UT

EWP ENGINEERING

Salt Lake City, UT

COARSE REFUSE SEEP MONITORING

V-NOTCH WEIR @ CULVERT (CRC)

Date	Time	Personel	Weather	Flow (feet)	Flow (gpm)	Temp C	pH	SC (umhos)	DO (mg/l)
11/22/94	1500	J.C.	CLEAR 32°	.21	23	11.0	8.04	5.1	6.5
12/9/94	1420	J.C.	CLEAR 25°	.20	21	11.3	8.1	5.6	5.4

SUNNYSIDE COGENERATION ASSOCIATES

Carbon County, UT

EWP ENGINEERING

Salt Lake City, UT

COARSE REFUSE SEEP MONITORING

V-NOTCH WEIR @ CULVERT (CRC)

Date	Time	Personel	Weather	Flow (feet)	Flow (gpm)	Temp C	pH	SC (umhos)	DO (mg/l)
11/22/94	1500	J.C.	CLEAR 32°±	.21	23	11.0	8.04	5.1	6.5
12/9/94	1420	J.C.	CLEAR 25°±	.25	21	11.3	8.1	5.6	5.4
12/15/94	1330	J.C	PTLY CLDY 25°±	.22	26	12.2	8.1	5.5	4.9
12/22/94	1430	J.C	PTLY CLDY 35°±	.20	21	13.4	8.0	4.5	5.6
1/6/95	1040	J.C.	CLEAR 25°±	.20	21	11.2	8.0	5.6	5.6
1/12/95	1230	J.C	PTLY CLDY 30°±	.20	21	11.1	8.1	5.4	5.0
1-20-95	1445	J.C.	CLOUDY 35°±	.20	21	11.3	8.2	5.5	4.5
1-27-95	1415	J.C	CLDY 32°±	.22	26	11.2	8.1	5.5	4.4
2-1-95	1315	JC	CLEAR 40°±	.24	32	11.7	8.3	4.8	4.4

Tampella Services ID:1-801-888-2538 FEB 01'95 18:34 No.014 P.03

SUNNYSIDE COGENERATION ASSOCIATES

Carbon County, UT

EWP ENGINEERING

Salt Lake City, UT

COARSE REFUSE SEEP MONITORING

V-NOTCH WEIR @ BOUNDARY (CRB)

Date	Time	Personel	Weather	Flow (feet)	Flow (gpm)	Temp C	pH	SC (mS ~~umhos~~)	DO (mg/l)
5/19/94	1650	J.C	PTLY CLDY 65°	.28	48	15.55	8.1	5.18	7.64
5/27/94	1400	J.C.	PTLY CLDY 70°	.29	52	16.77	7.8	5.07	6.87
6/8/94	1120	J.C.	CLEAR 60°	.28	48	15.50	7.8	5.30	8.0
6/16/94	1307	J.C.	CLEAR 75°	.26	40	19.62	7.8	5.28	7.61
6/23/94	1645	J.C.	CLEAR 80°	.25	36	22.75	7.8	5.29	6.4
6/30/94	0930	J.C.	CLEAR 70°	.26	40	15.90	7.9	5.4	7.3
7/8/94	1140	J.C.	CLEAR 78°	.26	40	17.6	8.06	5.4	7.4
7/14/94	1320	J.C.	CLEAR 85°	.24	32	19.75	7.98	5.4	7.02
7/21/94	1520	J.C.	CLEAR 90°	.22	26	22.6	7.9	5.4	~~7.6~~ 8.6
7/28/94	1020	J.C.	CLEAR 80°	.28	48	17.5	8.1	5.5	7.3
8/4/94	1040	J.C.	CLEAR 80°	.25	36	18.3	8.2	5.5	6.6
8/11/94	1110	J.C.	CLEAR 80°	.28	48	18.5	8.2	5.6	6.8
8/19/94	1035	J.C.	CLOUDY 70°	.25	36	17.2	8.2	5.6	6.9
8/26/94	0945	J.C.	CLEAR 75°	.23	29	16.1	8.2	5.6	6.9
8/31/94	1700	J.C.	CLEAR 80°	.22	26	20.3	8.2	5.6	7.4
9/9/94	1115	J.C	CLEAR 75°	.28	48	17.6	8.3	5.5	7.2
9/16/94	1100	J.C	CLEAR 70°	.26	40	14.2	8.4	5.5	7.8
9/20/94	1630	J.Martin	Pt. Cldy 65°	.26	40	15.95	8.34	5.47	7.60
9/29/94	1045	J.C.	CLOUDY/RAIN 65°	.26	40	15.00	8.4	5.5	7.5
10/6/94	1315	J.C.	PTLY CLDY 55°	.26	40	12.7	8.5	5.5	8.5
10/13/94	1110	J.C.	CLEAR 50°	.25	36	13.0	8.5	5.5	7.7
10/21/94	1340	J.C.	CLEAR 50°	.26	40	12.6	8.6	5.4	8.3
10/28/94	1050	J.C.	CLEAR 50°	.26	40	9.9	8.6	5.5	8.4
11/4/94	1030	J.C	CLDY 45°	.26	40	~~9.1~~ 9.0	8.5	5.4	8.1
11/9/94	1515	J.C	CLEAR 50°	.26	40	9.0	8.7	5.5	8.6
11/17/94	1500	J.C	CLDY 40°	.24	32	9.1	8.6	5.6	8.1

SUNNYSIDE COGENERATION ASSOCIATES

Carbon County, UT

EWP ENGINEERING

Salt Lake City, UT

COARSE REFUSE SEEP MONITORING

V-NOTCH WEIR @ BOUNDARY (CRB)

Date	Time	Personel	Weather	Flow (feet)	Flow (gpm)	Temp C	pH	SC (umhos)	DO (mg/l)
11/22/94	1545	J.C.	CLEAR 32°	.23	29	7.0	8.8	5.2	7.3
12/9/94	1445	J.C.	CLEAR 25°	.24	32	5.4	8.8	5.4	7.7

SUNNYSIDE COGENERATION ASSOCIATES

Carbon County, UT

EWP ENGINEERING

Salt Lake City, UT

COARSE REFUSE SEEP MONITORING

V-NOTCH WEIR @ BOUNDARY (CRB)

Date	Time	Personel	Weather	Flow (feet)	Flow (gpm)	Temp C	pH	SC (umhos)	DO (mg/l)
11/22/94	1545	J.C.	CLEAR 32°	.23	29	7.0	8.8	5.2	7.3
12/9/94	1445	J.C.	CLEAR 25°	.24	32	5.4	8.8	5.4	7.7
12/15/94	1345	J.C.	PTLY CLDY 25°	.26	40	5.9	8.9	5.4	7.5
12/22/94	1445	J.C.	PTLY CLDY 35°	.26	40	7.0	8.9	5.3	7.6
1/6/95	1100	J.C.	CLEAR 25°	.26 .22	40	3.7	9.1	5.3	9.0
1/12/95	1300	J.C.	PTLY CLDY 30°±	.26	40	5.2	8.9	5.4	8.0
1-21-95	1515	J.C	CLOUDY 35°±	.26	40	6.0	9.1	5.3	8.3
1-27-95	1445	J.C.	CLDY 32°±	.26	40	5.9	9.0	5.4	8.0
2-1-95	1345	J.C.	CLEAR 40°±	.26	40	5.2	9.1	5.2	7.1

APPENDIX B

Table B - 1

Climatic Record of Sunnyside City
Carbon County, Utah

MONTH	YEAR	TEMPERATURE (°F) HIGH	LOW	AVE.	PRECIPITATION (IN)	SNOWFALL (IN)
January	1994	41.1	21.3	31.2	0	0
February	1994	37.4	16.9	27.2	0.66	3
March	1994	55.5	31.5	43.5	0.13	0
April	1994	58.6	35.2	46.9	3.88	24
May	1994	71.4	44.8	58.1	0.61	0
June	1994	85.9	54.8	70.4	0.05	0
July	1994	88.5	60.1	74.3	0.26	0
August	1994	85.5	55.3	70.4	1.22	0
September	1994	75.8	47.4	61.6	2.33	0
October	1994	56.6	36.1	46.4	2.84	7
November	1994	39.1	20.8	30.0	0.74	3.5
December	1994	36.9	18.5	27.7	0.73	10.5

WS FORM E-15
(7-79)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

STATION (Climatological): Sunnyside City (River Station, if different)
MONTH: Jan. 19 94
STATE: Utah
COUNTY: Carbon
RIVER:
TIME (local) OF OBSERVATION RIVER:
TEMP.: 4 PM
PRECIPITATION: 4 PM
STANDARD TIME IN USE:
TYPE OF RIVER GAGE:
ELEVATION OF RIVER GAGE ZERO: Ft.
FLOOD STAGE: Ft.
NORMAL POOL STAGE: Ft.

DATE	TEMPERATURE F. 24 HRS. ENDING AT OBSERVATION MAX.	MIN.	AT OBSN.	PRECIPITATION 24-HR AMOUNTS Rain, melted snow, etc. (ins. and hundredths)	Snow, ice pellets, hail (ins. and tenths)	At Ob. Snow, ice pellets, hail, ice on ground (ins.)	WEATHER (Calendar Day) Fog	Ice Pellets	Glaze	Thunder	Hail	Damaging Winds	Time of observation if different from above	RIVER STAGE CONDITION	GAGE READING AT ___ A.M.	TENDENCY	REMARKS (Special observations, etc.,)
1	(34)	(13)															
2	(43)	(23)															
3	46	26	34														
4	44	30	33														
5	42	29	37														
6	35	14	29														
7	32	10	30														
8	(34)	(17)															
9	(39)	(20)															
10	38	18	35														
11	36	16	31														
12	39	16	35														
13	46	18	38														
14	44	21	41														
15	(41)	(24)															
16	(42)	(22)															
17	49	21	47														
18	48	24	46														
19	48	24	44														
20	49	26	45														
21	49	27	45														
22	(49)	(28)															
23	(45)	(26)															
24	46	27	45														
25	44	28	41														
26	42	24	36														
27	37	33	32														
28	41	24	35														
29	35	(18)															
30	30	18	26														
31	26	(4)	22														
SUM			SUM														
				Greatest													

Draw a straight line (——) through hours precipitation was observed, and a waved line (~~~) through hours precipitation probably occurred unobserved.

A.M. NOON P.M.

Mark 'X' for all types occurring each day.

CHECK BAR (For wire-weight) NORMAL CK. BAR

READING	DATE

Fog	Ice Pel.	Glaze	Thund	Hail	Dam. Winds	SUM

CONDITION OF RIVER AT GAGE

A. Obstructed by rough ice.
B. Frozen, but open at gage.
C. Upper surface of smooth ice.
D. Ice gorge above gage.
E. Ice gorge below gage.
F. Shore ice.
G. Floating ice.
H. Backwater.

OBSERVER: Tom Anderson

SUPERVISING OFFICE:

STATION INDEX NO.:

STATION (Climatological) Sunnyside City

(River Station, if different)

STATE Utah

COUNTY Carbon

MONTH ~~FEB~~ 19 94

RIVER

TIME (local) OF OBSERVATION RIVER

TEMP. 4PM

PRECIPITATION 4PM

STANDARD TIME IN USE

TYPE OF RIVER GAGE

ELEVATION OF RIVER GAGE ZERO Ft.

FLOOD STAGE Ft.

NORMAL POOL STAGE Ft.

WS FORM E-15 (17-79)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

DATE	TEMPERATURE F. 24 HRS. ENDING AT OBSERVATION MAX.	MIN.	AT OBSN.	PRECIPITATION 24-HR AMOUNTS Rain, melted snow, etc. (line, and hundredths)	Snow, ice pellets, hail (line, and tenths)	At Ob. Snow, ice pellets, hail, ice on ground (line)	WEATHER (Calendar Day) Mark 'X' for all types occurring each day. Fog	Ice Pellets	Glaze	Thunder	Hail	Damaging Winds	Time of observation if different from above	RIVER STAGE CONDITION	GAGE READING AT ___ A.M.	TENDENCY	REMARKS (Special observations, etc.,)
1	28	3	25														
2	30	6	21														
3	33	9	30														
4	35	14	28														
5	(32)	(17)															
6	(32)	(12)	26														
7	36	12	35	.04													
8	38	28	35	.04													
9	39	11	37														
10	37	21	32	T													
11	34	23	26	.14	2"												
12	(33)	(7)															
13	(34)	(11)															
14	41	12	39														
15	43	17	40														
16	45	24	41														
17	41	28	35	T													
18	38	28	35	.28													
19	(35)	(20)		.02													
20	(30)	(13)		.07	1"												
21	35	19	33														
22	31	13	27	T													
23	32	5	31														
24	43	15	41														
25	53	30	52														
26	(52)	(30)															
27	(42)	(31)															
28	49	25	46	.07													
29																	
30																	
31																	
SUM	41	21	SUM	.66													
				Greatest			Fog	Ice Pel.	Glaze	Thund	Hail	Dam. Winds	SUM				

Drawing: Draw a straight line (——) through hours precipitation was observed, and a waved line (~~~) through hours precipitation probably occurred unobserved.

CONDITION OF RIVER AT GAGE

A. Obstructed by rough ice.
B. Frozen, but open at gage.
C. Upper surface of smooth ice.
D. Ice gorge above gage.
E. Ice gorge below gage.
F. Shore ice.
G. Floating ice.
H. Backwater.

CHECK BAR (For wire-weight) NORMAL CK. BAR

READING	DATE

OBSERVER Tom Anderson

SUPERVISING OFFICE

STATION INDEX NO.

WS FORM E-15 (7-79)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

STATION (Climatological): Sunnyside City (River Station, if different)
MONTH: Mar. 19 94
STATE: Utah
COUNTY: Carbon
RIVER:
TIME (local) OF OBSERVATION: RIVER
TEMP.: 4 pm
PRECIPITATION: 4 pm
STANDARD TIME IN USE:
TYPE OF RIVER GAGE:
ELEVATION OF RIVER GAGE ZERO: Ft.
FLOOD STAGE: Ft.
NORMAL POOL STAGE: Ft.

DATE	TEMPERATURE F. 24 HRS. ENDING AT OBSERVATION MAX.	MIN.	AT OBSN.	PRECIPITATION 24-HR AMOUNTS Rain, melted snow, etc. (ins. and hundredths)	Snow, ice pellets, hail (ins. and tenths)	Snow, ice pellets, hail, ice on ground (ins.)	At Ob.	WEATHER (Calendar Day) Fog	Ice Pellets	Glaze	Thunder	Hail	Damaging Winds	Time of observation if different from above	RIVER STAGE CONDITION	GAGE READING AT ___ A.M.	TENDENCY	REMARKS (Special observations, etc.,)
1	53	28	51															
2	51	30	55															
3	52	32	56															
4	55	34	50															
5	(58)	(38)																
6	(59)	(39)																
7	55	35	52															
8	54	34	51															
9	51	23	50															
10	50	26	49															
11	54	30	49	.06														
12	(51)	(36)																
13	(60)	(33)																
14	65	37	60															
15	65	38	62															
16	63	38	61															
17	66	46	58															
18	58	35	55															
19	(51)	(44)																
20	(53)	(30)		.02														
21	56	29	55															
22	56	35	52															
23	52	15	42															
24	43	29	41															
25	51	30	40	.05														
26	(55)	(33)																
27	(50)	(20)																
28	53	23	53															
29	53	30	47															
30	55	24	53															
31	60	31	50															
Sums			SUM	.13														
				Greatest														

Draw a straight line (——) through hours precipitation was observed, and a waved line (~~~) through hours precipitation probably occurred unobserved.

A.M. NOON P.M.

Mark "X" for all types occurring each day.

CHECK BAR (For wire-weight) NORMAL CK. BAR

READING	DATE

Fog	Ice Pel.	Glaze	Thund.	Hail	Dam. Winds	SUM

CONDITION OF RIVER AT GAGE

A. Obstructed by rough ice.
B. Frozen, but open at gage.
C. Upper surface of smooth ice.
D. Ice gorge above gage.
E. Ice gorge below gage.
F. Shore ice.
G. Floating ice.
H. Pool stage.

OBSERVER: Don Anderson

SUPERVISING OFFICE:

STATION INDEX NO.: 42 8478 7

STATION (Climatological): Sunnyside City (River Station, if different)

MONTH: APR. 19 94

STATE: Utah

COUNTY: Carbon

RIVER:

TIME (local) OF OBSERVATION: RIVER

TEMP.: 4 PM

PRECIPITATION: 4 PM

STANDARD TIME IN USE:

TYPE OF RIVER GAGE:

ELEVATION OF RIVER GAGE ZERO: Ft.

FLOOD STAGE: Ft.

NORMAL POOL STAGE: Ft.

WS FORM E-15 (7-79)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

DATE	TEMPERATURE F. 24 HRS. ENDING AT OBSERVATION MAX.	MIN.	AT OBSN.	PRECIPITATION 24-HR AMOUNTS Rain, melted snow, etc. (Inc. and hundredths)	Snow, ice pellets, hail (Inc. and tenths)	At Ob. Snow, ice pellets, hail, ice on ground (Inc.)	WEATHER (Calendar Day) Fog	Ice Pellets	Glaze	Thunder	Hail	Damaging Winds	Time of observation if different from above	RIVER STAGE CONDITION	GAGE READING AT ___ A.M.	TENDENCY	REMARKS (Special observations, etc.,)
1	57	34	39	.11													
2	(62)	(30)		.02													
3	(62)	(37)															
4	49	30	48														
5	49	22	47														
6	51	28	50														
7	51	30	48	.10													
8	48	27	47														
9	(47)	(33)		.36													
10	47	33	46	.92	6 1/2												
11	51	32	51	.02													
12	56	29	56														
13	64	34	64														
14	64	40	58														
15	61	31	50														
16	(70)	(41)															
17	(73)	(47)															
18	73	49	72														
19	76	51	70														
20	76	49															
21	78	46	75														
22	76	49	74														
23	(74)	(40)															
24	(68)	(50)															
25	45	28	42	.71	6												
26	44	28	41	.80	7												
27	43	28	39	.41	4 1/2												
28	41	29	34	.37													
29	47	30	45	.04													
30	(52)	(31)		.02													
31																	
SUM				3.88													
Greatest																	

Drow a straight line (——) through hours precipitation was observed, and a waved line (~~~) through hours precipitation probably occurred unobserved.

Mark 'X' for all types occurring each day.

CHECK BAR (For wire-weight) NORMAL CK. BAR

READING	DATE

CONDITION OF RIVER AT GAGE

A. Obstructed by rough ice.
B. Frozen, but open at gage.
C. Upper surface of smooth ice.
D. Ice gorge above gage.
E. Ice gorge below gage.
F. Shore ice.
G. Floating ice.
H. Pool stage.

OBSERVER: Tom Anderson

SUPERVISING OFFICE:

STATION INDEX NO.: 42 8478 7

[redacted] NAT[redacted]OCEA[redacted] U.S. [redacted]MEN[redacted]OMME[redacted] ATM[redacted]RIC A[redacted]TRATION
NATIONAL WEATHER SERVICE

RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

STA[redacted]	C[redacted]	[redacted]	[redacted]	RIVER
Utah	Carbon			
TIME (local) OF OBSERVATION	RIVER	TEMP.	PRECIPITATION	STANDARD TIME IN USE
		4 PM	4 PM	
TYPE OF RIVER GAGE	ELEVATION OF RIVER GAGE ZERO Ft.	FLOOD STAGE Ft.	NORMAL POOL STAGE Ft.	

DATE	TEMPERATURE F. 24 HRS. ENDING AT OBSERVATION MAX.	MIN.	AT OBSN.	PRECIPITATION 24-HR AMOUNTS Rain, melted snow, etc. (ins. and hundredths)	Snow, ice pellets, hail (ins. and tenths)	At Ob. Snow, ice pellets, hail, ice on ground (ins.)	WEATHER (Calendar Day) Fog	Ice Pellets	Glaze	Thunder	Hail	Damaging Winds	Time of observation if different from above	RIVER STAGE CONDITION	GAGE READING AT ___ A.M.	TENDENCY	REMARKS (Special observations, etc.,)
1	(57)	(37)															
2	60	36	58														
3	66	39	65														
4	69	39	66														
5	73	46	71														
6	72	45	71														
7	(71)	(48)															
8	(65)	(38)															
9	69	51	54														
10	66	38	66	TR.													
11	74	42	73														
12	73	44	69														
13	69	47	68	TR.													
14	(72)	(40)															
15	(75)	(50)															
16	73	58	72														
17	72	48	60														
18	66	46	66														
19	67	43	64														
20	64	34	58														
21	(70)	(39)															
22	(71)	(45)															
23	78	51	77														
24	79	54	70														
25	78	54	76														
26	72	42	69														
27	72	45	69	.01													
28	(73)	(53)															
29	(82)	(48)															
30	85	52	80														
31	80	38	49	.60													
SUM			SUM	.61													
				Greatest													

Draw a straight line (——) through hours precipitation was observed, and a waved line (~~~) through hours precipitation probably occurred unobserved.

A.M. NOON P.M.

1 2 3 4 5 6 7 8 9 10 11 1 2 3 4 5 6 7 8 9 10 11

Mark 'X' for all types occurring each day.

CONDITION OF RIVER AT GAGE

A. Obstructed by rough ice.
B. Frozen, but open at gage.
C. Upper surface of smooth ice.
D. Ice gorge above gage.
E. Ice gorge below gage.
F. Shore ice.
G. Floating ice.
H. Pool stage.

CHECK BAR (For wire-weight) NORMAL CK. BAR

READING	DATE

Fog	Ice Pel.	Glaze	Thund	Hail	Dam. Winds	SUM

OBSERVER Tom Anderson

SUPERVISING OFFICE

STATION INDEX NO. 42 8478 7

Sunnyside City (River station, if different)

STATE	COUNTY	MONTH	19
Utah	Carbon	June	94

RIVER

TIME (local) OF OBSERVATION	TEMP.	PRECIPITATION	STANDARD TIME IN USE
	4 Pm	4 Pm	

TYPE OF RIVER GAGE	ELEVATION OF RIVER GAGE ZERO	FLOOD STAGE	NORMAL POOL STAGE
	Ft.	Ft.	Ft.

WS FORM E-15 (7-79)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

DATE	TEMPERATURE F. 24 HRS. ENDING AT OBSERVATION MAX.	MIN.	AT OBSN.	PRECIPITATION 24-HR AMOUNTS Rain, melted snow, etc. (line, and hundredths)	Snow, ice pellets, hail (line, and tenths)	Snow, ice pellets, hail, ice on ground (line)	At Ob.
1	76	43	76	.05			
2	78	52	78				
3	84	52	84				
4	(85)	(52)					
5	(83)	(55)					
6	83	54	83				
7	83	51	73				
8	73	44	70				
9	78	44	77				
10	82	49	81				
11	(88)	(57)					
12	(89)	(58)					
13	89	57	88				
14	88	49	87				
15	85	60	84				
16	83	55	82				
17	85	50	84				
18	(84)	(59)					
19	(83)	(58)		Tr.			
20	80	58	78				
21	79	56	75				
22	87	56	87				
23	89	56	88				
24	95	61	94				
25	(98)	(63)					
26	(97)	(60)					
27	96	55	88				
28	92	59	88				
29	91	62	91				
30	93	60	92				
31							
SUM			SUM	.05			
				Greatest			

Draw a straight line (——) through hours precipitation was observed, and a waved line (~~~) through hours precipitation probably occurred unobserved.

A.M. NOON P.M.

1 2 3 4 5 6 7 8 9 10 11 | 1 2 3 4 5 6 7 8 9 10 11

WEATHER (Calendar Day) Mark 'X' for all types occurring each day.	Fog	Ice Pellets	Glaze	Thunder	Hail	Damaging Winds	Time of observation if different from above	RIVER STAGE CONDITION	GAGE READING AT ___ A.M.	TENDENCY	REMARKS (Special observations, etc.,)
SUM	Fog	Ice Pel.	Glaze	Thund.	Hail	Dam. Winds					

CHECK BAR (For wire-weight) NORMAL CK. BAR

READING	DATE

CONDITION OF RIVER AT GAGE

A. Obstructed by rough ice.
B. Frozen, but open at gage.
C. Upper surface of smooth ice.
D. Ice gorge above gage.
E. Ice gorge below gage.
F. Shore ice.
G. Floating ice.
H. Pool stage.

OBSERVER Don Anderson

SUPERVISING OFFICE

STATION INDEX NO. 42 8478 7

STA[redacted] Sunnyside City [redacted] MON[redacted] Jul. 19 94

FORM [redacted] (7-79)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

STATE	COUNTY	RIVER
Utah	Carbon	

TIME (local) OF OBSERVATION RIVER	TEMP.	PRECIPITATION	STANDARD TIME IN USE
	4 PM	4 PM	

TYPE OF RIVER GAGE	ELEVATION OF RIVER GAGE ZERO Ft.	FLOOD STAGE Ft.	NORMAL POOL STAGE Ft.

DATE	TEMPERATURE F. 24 HRS. ENDING AT OBSERVATION MAX.	MIN.	AT OBSN.	PRECIPITATION 24-HR AMOUNTS Rain, melted snow, etc. (Ins. and hundredths)	Snow, ice pellets, hail (Ins. and tenths)	At Obs. Snow, ice pellets, hail, ice on ground (Ins.)	WEATHER (Calendar Day) Fog	Ice Pellets	Glaze	Thunder	Hail	Damaging Winds	Time of observation if different from above	RIVER STAGE CONDITION	GAGE READING AT ___ A.M.	TENDENCY	REMARKS (Special observations, etc.,)
1	93	62	89														
2	(89)	(64)															
3	(87)	(60)															
4	86	59	84														
5	87	55	83														
6	83	54	72														
7	77	44	77														
8	84	69	81														
9	(93)	(59)															
10	(93)	(63)															
11	90	62	90														
12	86	63	85														
13	91	52	89														
14	89	59	84														
15	87	60	86														
16	(87)	(63)															
17	(91)	(59)															
18	88	59	85														
19	89	56	89														
20	90	60	88														
21	89	64	89														
22	90	60	83	.21													
23	(85)	(58)															
24	(87)	(64)															
25	90	59	85	.05													
26	91	65	80														
27	93	64	84														
28	92	63	76	Tr.													
29	90	62	87	Tr													
30	(90)	(63)															
31	(87)	(60)															
SUM	2744	1864	SUM	.26													
				Greatest													

Mark "X" for all types occurring each day.

Draw a straight line (——) through hours precipitation was observed, and a waved line (~~~) through hours precipitation probably occurred unobserved.

A.M. NOON P.M.

CHECK BAR (For wire-weight) NORMAL CK. BAR

READING	DATE

Fog	Ice Pel.	Glaze	Thund	Hail	Dam. Winds	SUM

CONDITION OF RIVER AT GAGE
88.5 60.1

A. Obstructed by rough ice.
B. Frozen, but open at gage.
C. Upper surface of smooth ice.
D. Ice gorge above gage.
E. Ice gorge below gage.
F. Shore ice.
G. Floating ice.
H. Pool stage.

OBSERVER Tom Anderson

SUPERVISING OFFICE

STATION INDEX NO. 42 8478 7

STATION (Climatological): Sunnyside City (River Station, if different)

MONTH: Aug 19 94

STATE: Utah

COUNTY: Carbon

RIVER:

TIME (local) OF OBSERVATION RIVER: TEMP. 4 Pm PRECIPITATION 4 Pm

STANDARD TIME IN USE:

TYPE OF RIVER GAGE:

ELEVATION OF RIVER GAGE ZERO: Ft.

FLOOD STAGE: Ft.

NORMAL POOL STAGE: Ft.

WS FORM E-15 (7-79)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

DATE	TEMPERATURE F. 24 HRS. ENDING AT OBSERVATION MAX.	MIN.	AT OBSN.	PRECIPITATION 24-HR AMOUNTS Rain, melted snow, etc. (Inc. and hundredths)	Snow, ice pellets hail (Inc. and tenths)	Snow, ice pellets hail, ice on ground (Inc.)	At Ob.
1	85	61	74				
2	89	55	80				
3	91	59	89				
4	93	64	92				
5	94	63	91				
6	(91)	(60)					
7	(92)	(64)					
8	85	63	82				
9	74	53	67	1.06			
10	80	53	77				
11	85	54	82				
12	82	60	81				
13	(85)	(62)					
14	(86)	(58)					
15	86	56	73	Tr.			
16	90	59	89				
17	93	60	89				
18	92	63	79				
19	80	55	80	.11			
20	(81)	(53)		TR.			
21	(82)	(53)					
22	85	56	84				
23	82	54	80				
24	94	56	82				
25	97	58	84				
26	86	56	85				
27	(86)	(60)		.05			
28	(82)	(53)					
29	80	54	75				
30	80	53	76				
31	81	48	78				
SUM	2649	1776	SUM	1.22			
				Greatest			

Draw a straight line (——) through hours precipitation was observed, and a waved line (~~~) through hours precipitation probably occurred unobserved.

A.M. NOON P.M.

WEATHER (Calendar Day) — Mark 'X' for all types occurring each day.

DATE	Fog	Ice Pellets	Glaze	Thunder	Hail	Damaging Winds	Time of observation if different from above	RIVER STAGE CONDITION	GAGE READING AT ___ A.M.	TENDENCY	REMARKS (Special observations, etc.,)
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
SUM	Fog	Ice Pel.	Glaze	Thund.	Hail	Dam. Winds	SUM				

CONDITION OF RIVER AT GAGE

25.5 57.2

A. Obstructed by rough ice.
B. Frozen, but open at gage.
C. Upper surface of smooth ice.
D. Ice gorge above gage.
E. Ice gorge below gage.
F. Shore ice.
G. Floating ice.
H. Pool stage.

CHECK BAR (For wire-weight) NORMAL CK. BAR

READING	DATE

OBSERVER: Tom Anderson

SUPERVISING OFFICE:

STATION INDEX NO.: 42 8478 7

STAT[redacted] Sunnyside

MON[redacted] Sep. 19 94

WS FORM E-15 (7-791)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

STATE	COUNTY	RIVER
Utah	Carbon	

TIME (local) OF OBSERVATION	TEMP.	PRECIPITATION	STANDARD TIME IN USE
	4 Pm	4 Pm	

TYPE OF RIVER GAGE	ELEVATION OF RIVER GAGE ZERO Ft.	FLOOD STAGE Ft.	NORMAL POOL STAGE Ft.

DATE	TEMPERATURE F. 24 HRS. ENDING AT OBSERVATION MAX.	MIN.	AT OBSN.	PRECIPITATION 24-HR AMOUNTS Rain, melted snow, etc. (ins. and hundredths)	Snow, ice pellets, hail (ins. and tenths)	At Ob. Snow, ice pellets, hail, ice on ground (ins.)	WEATHER (Calendar Day) Mark 'X' for all types occurring each day. Fog	Ice Pellets	Glaze	Thunder	Hail	Damaging Winds	Time of observation if different from above	RIVER STAGE CONDITION	GAGE READING AT ___ A.M.	TENDENCY	REMARKS (Special observations, etc.,)
1	77	49	75														
2	81	50	80	1.00													
3	(80)	(49)															
4	(75)	(48)															
5	81	49	81														
6	81	59	63														
7	81	49	80														
8	82	54	80	[redacted]													
9	81	54	77	.03													
10	(77)	(49)		.03													
11	(72)	(47)		.01													
12	76	46	60	.05													
13	74	51	62														
14	62	41	59	TR													
15	68	37	68														
16	68	43	68														
17	(72)	(44)															
18	(71)	(49)															
19	70	47	61														
20	67	47	58	.15													
21	73	41	72														
22	73	41	68														
23	84	39	73														
24	(77)	(47)															
25	(78)	(51)															
26	82	48	80														
27	90	50	76														
28	81	51	80														
29	80	50	54	.05													
30	59	42	59	1.01													
31																	
SUM	2273	1422	SUM	2.33													
				Greatest													

Draw a straight line (——) through hours precipitation was observed, and a waved line (~~~) through hours precipitation probably occurred unobserved.

A.M. NOON P.M.

CONDITION OF RIVER AT GAGE
75.7 47.4

A. Obstructed by rough ice.
B. Frozen, but open at gage.
C. Upper surface of smooth ice.
D. Ice gorge above gage.
E. Ice gorge below gage.
F. Shore ice.
G. Floating ice.
H. Pool stage.

CHECK BAR (For wire-weight) NORMAL CK. BAR

READING	DATE

Fog	Ice Pel.	Glaze	Thund.	Hail	Dam. Winds	SUM

OBSERVER Tom Anderson

SUPERVISING OFFICE

STATION INDEX NO. 42 8478 7

STATION (Climatological): Sunnyside (River Station, if different:)
MONTH: Oct 19 94
STATE: Utah
COUNTY: Carbon
RIVER:
TIME (local) OF OBSERVATION RIVER:
TEMP.: 4 P.M.
PRECIPITATION: 4. P.M.
STANDARD TIME IN USE:
TYPE OF RIVER GAGE:
ELEVATION OF RIVER GAGE ZERO: Ft.
FLOOD STAGE: Ft.
NORMAL POOL STAGE: Ft.

WS FORM E-15 (7-79)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

DATE	TEMPERATURE F. 24 HRS. ENDING AT OBSERVATION MAX.	MIN.	AT OBSN.	PRECIPITATION 24-HR AMOUNTS Rain, melted snow, etc. (ins. and hundredths)	Snow, ice pellets, hail (ins. and tenths)	Snow, ice pellets, hail, ice on ground (ins.) At Ob.	WEATHER (Calendar Day) Fog	Ice Pellets	Glaze	Thunder	Hail	Damaging Winds	Time of observation if different from above	RIVER STAGE CONDITION	GAGE READING AT ___ A.M.	TENDENCY	REMARKS (Special observations, etc.,)
1	(59)	(38)		.63													
2	(60)	(38)															
3	48	38	42	.45													
4	58	39	55	.13													
5	59	49	56														
6	56	37	52														
7	56	36	56	Tr													
8	(61)	(38)															
9	(64)	(39)															
10	65	41	63														
11	63	42	63														
12	64	39	63														
13	66	42	64														
14	64	42	52	.04													
15	52	30	38	.73													
16	40	27	40	.70	7"	3"											
17	41	29	39	.16		1"											
18	43	32	41	Tr.													
19	51	31	50														
20	55	32	54														
21	57	36	55														
22	(60)	(37)															
23	(63)	(38)															
24	61	39	59														
25	61	36	60														
26	60	35	56														
27	57	34	54														
28	(56)	(33)															
29	(57)	(34)															
30	(45)	(33)															
31	52	24	44														
SUM	1754	1118	SUM	2.84													
				Greatest													

Draw a straight line (——) through hours precipitation was observed, and a waved line (~~~) through hours precipitation probably occurred unobserved.

Mark 'X' for all types occurring each day.

CHECK BAR (For wire-weight) NORMAL CK. BAR

READING	DATE

Fog	Ice Pel.	Glaze	Thund	Hail	Dam. Winds	SUM

CONDITION OF RIVER AT GAGE
56.5 36.0

A. Obstructed by rough ice.
B. Frozen, but open at gage.
C. Upper surface of smooth ice.
D. Ice gorge above gage.
E. Ice gorge below gage.
F. Shore ice.
G. Floating ice.
H. Pool stage.

OBSERVER: Tom Anderson

SUPERVISING OFFICE:

STATION INDEX NO.: 42 8478 7

STATION (Climatological) Sunnyside — River Station (if different)

MONTH Nov. 19 94

WS FORM E-15 (7-79)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

STATE	COUNTY	RIVER
Utah	Carbon	

TIME (local) OF OBSERVATION	TEMP.	PRECIPITATION	STANDARD TIME IN USE
	4 P.m.	4 P.m.	

TYPE OF RIVER GAGE	ELEVATION OF RIVER GAGE ZERO Ft.	FLOOD STAGE Ft.	NORMAL POOL STAGE Ft.

Draw a straight line (——) through hours precipitation was observed, and a waved line (~~~) through hours precipitation probably occurred unobserved.

DATE	TEMPERATURE F. 24 HRS. ENDING AT OBSERVATION MAX.	MIN.	AT OBSN.	PRECIPITATION 24-HR AMOUNTS Rain, melted snow, etc. (Ins. and hundredths)	Snow, ice pellets, hail (Ins. and tenths)	At Ob. Snow, ice pellets, hail, ice on ground (Ins.)	WEATHER (Calendar Day) Fog	Ice Pellets	Glaze	Thunder	Hail	Damaging Winds	Time of observation if different from above	RIVER STAGE CONDITION	GAGE READING AT ___ A.M.	TENDENCY	REMARKS (Special observations, etc.,)
1	48	29	47														
2	47	30	33	.25													
3	39	25	35	.15													
4	38	16	35														
5	(44)	(23)															
6	(48)	(29)															
7	54	34	51														
8	51	34	47														
9	47	24	45														
10	51	28	48														
11	55	34	52														
12	(46)	(28)															
13	(30)	(24)		.11													
14	33	14	31														
15	35	13	31														
16	35	25	35														
17	35	10	23	Tr.													
18	30	21	29	.15	2 1/2	2 1/2											
19	(41)	(22)		.05	1	2											
20	(39)	(17)															
21	32	24	30														
22	36	9	30														
23	35	10	33														
24	(36)	(18)															
25	(37)	(23)															
26	(34)	(23)		.03													
27	(29)	(6)															
28	26	10	24	Tr.													
29	27	7	26														
30	36	13	32														
31																	
SUM	1174	623	SUM	.74	3 1/2												
Greatest																	

CHECK BAR (For wire-weight) NORMAL CK. BAR

READING	DATE

CONDITION OF RIVER AT GAGE
39.1 20.7

A. Obstructed by rough ice.
B. Frozen, but open at gage.
C. Upper surface of smooth ice.
D. Ice gorge above gage.
E. Ice gorge below gage.
F. Shore ice.
G. Floating ice.
H. Pool stage.

OBSERVER Tom Anderson

SUPERVISING OFFICE

STATION INDEX NO. 42 8478 7

WS FORM E-13
(7-79)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

RECORD OF RIVER AND CLIMATOLOGICAL OBSERVATIONS

STATION (Climatological): Sunnyside — River Station, if different:
MONTH: Dec. 19 94
STATE: Utah
COUNTY: Carbon
RIVER:
TIME (local) OF OBSERVATION: TEMP. 4 P.M. PRECIPITATION 4 P.M.
STANDARD TIME IN USE:
TYPE OF RIVER GAGE:
ELEVATION OF RIVER GAGE ZERO: Ft.
FLOOD STAGE: Ft.
NORMAL POOL STAGE: Ft.

DATE	TEMPERATURE F. 24 HRS. ENDING AT OBSERVATION MAX.	MIN.	AT OBSN.	PRECIPITATION 24-HR AMOUNTS Rain, melted snow, etc. (ins. and hundredths)	Snow, ice pellets, hail (ins. and tenths)	At Ob. Snow, ice pellets, hail, ice on ground (ins.)	WEATHER (Calendar Day) Fog	Ice Pellets	Glaze	Thunder	Hail	Damaging Winds	Time of observation if different from above	RIVER STAGE CONDITION	GAGE READING AT ___ A.M.	TENDENCY	REMARKS (Special observations, etc.,)
1	39	16	35														
2	39	19	35														
3	(41)	(23)															
4	(43)	(30)		.07	1"												
5	35	32	35	.10	1½	1											
6	35	28	33	.01		½											
7	35	24	32	.02		–											
8	32	5	27														
9	28	5	27														
10	(26)	(6)															
11	(32)	(12)															
12	31	14	30														
13	30	16	27	.07	2"	2											
14	33	9	21	.08	3"	2											
15	32	12	31	.03	½"	2											
16	33	12	29														
17	(38)	(16)															
18	(39)	(19)															
19	40	17	38														
20	41	18	38														
21	45	21	43														
22	45	22	38														
23	44	29	36														
24	(40)	(28)		.19	2	½											
25	(39)	(25)		.14		–											
26	45	25	37														
27	40	22	37														
28	37	18	28														
29	33	22	31	.02	½												
30	39	19	36														
31	(36)	(10)															
SUM	1145	574	SUM	.73	10½												
				Greatest			Fog	Ice Pel.	Glaze	Thund.	Hail	Dam. Winds	SUM				

Draw a straight line (——) through hours precipitation was observed, and a waved line (~~~) through hours precipitation probably occurred unobserved.

Mark 'X' for all types occurring each day.

CHECK BAR (For wire-weight) NORMAL CK. BAR

READING	DATE

CONDITION OF RIVER AT GAGE
36.9 18.5

A. Obstructed by rough ice.
B. Frozen, but open at gage.
C. Upper surface of smooth ice.
D. Ice gorge above gage.
E. Ice gorge below gage.
F. Shore ice.
G. Floating ice.
H. Pool stage.

OBSERVER: Tom Anderson

SUPERVISING OFFICE:

STATION INDEX NO.: 42 8478 7

APPENDIX C

SUNNYSIDE COGENERATION ASSOCIATES
ACT/007/035
QUARTERLY INSPECTION OF IMPOUNDMENTS AND REFUSE PILE

Quarter FIRST (INSPECTED MARCH 16, 1994)
Year 1994
Weather Conditions FAIR

IMPOUNDMENT	INSTABILITY (Yes/No)	STRUCTURAL WEAKNESS (Yes/No)	HAZARDOUS CONDITIONS (Yes/No)	WATER DEPTH (feet)	WATER ELEVATION (feet)	STORAGE CAPACITY (acre-feet)	*OTHER	COMMENTS
Clear Water Pond (004)	NO	NO	NO	—	—	4.9	NO DISCHARGE	CLEANING IN PROCESS
Railcut Sediment Pond (007)	NO	NO	NO	DRY	DRY	4.8	NONE	NO CHANGE - DRY
Old Coarse Refuse Road Sediment Pond (008)	NO	NO	NO	DRY	DRY	0.9	NONE	NO CHANGE - DRY
Pasture Sediment Pond (009)	NO	NO	NO	DRY	DRY	1.0	NONE	NO CHANGE - DRY
New Coarse Refuse Toe Sediment Pond (012)	NO	NO	NO	DRY	DRY	1.6	NONE	NO CHANGE - DRY
Borrow Area Pond (016)	NO	NO	NO	DRY	DRY	8.3	NONE	NO CHANGE - DRY
Slurry Pond #1	NO	NO	NO	—	NA	16.4	NONE	INACTIVE - FULL
Slurry Pond #2	NO	NO	NO	—	NA	15.3	NONE	INACTIVE
East Slurry Cell	NO	NO	NO	—	NA	NA	NONE	INACTIVE
West Slurry Cell	NO	NO	NO	—	NA	NA	NONE	INACTIVE

Refuse Pile	Instability (Yes/No)	Structural Weakness (Yes/No)	Hazardous Conditions (Yes/No)	*Other	Comments
Coarse Refuse Pile	NO	NO	NO	FULL TO CAPACITY NO SMOKE VISIBLE	NO CHANGE

*Other = Any existing or required monitoring processes, instrumentation, or aspects of the structure affecting stability.

Date 3/16/94
State of Utah No. 170148
Professional Engineer Albert E. Boyd

LICENSED PROFESSIONAL ENGINEER
No. 170148
ALANE E. BOYD
STATE OF UTAH

INSPECT.XLS

SUNNYSIDE COGENERATION ASSOCIATES
ACT/007/035
QUARTERLY INSPECTION OF IMPOUNDMENTS AND REFUSE PILE

Quarter SECOND (INSPECTED JUNE 24, 1994)
Year 1994
Weather Conditions FAIR

IMPOUNDMENT	INSTABILITY (Yes/No)	STRUCTURAL WEAKNESS (Yes/No)	HAZARDOUS CONDITIONS (Yes/No)	WATER DEPTH (feet)	WATER ELEVATION (feet)	STORAGE CAPACITY (acre-feet)	*OTHER	COMMENTS
Clear Water Pond (004)	No	No	No	-0'-	-0'-	4.9	No DISCHARGE	IN-ACTIVE
Railcut Sediment Pond (007)	No	No	No	DRY	DRY	4.8	NONE	No CHANGE
Old Coarse Refuse Road Sediment Pond (008)	No	No	No	DRY	DRY	0.9	NONE	No CHANGE
Pasture Sediment Pond (009)	No	No	No	DRY	DRY	1.0	NONE	No CHANGE
New Coarse Refuse Toe Sediment Pond (012)	No	No	No	DRY	DRY	1.6	NONE	No CHANGE
Borrow Area Pond (016)	No	No	No	DRY	DRY	8.3	NONE	No CHANGE
Slurry Pond #1	No	No	No	—	NA	16.4	NONE	INACTIVE
Slurry Pond #2	No	No	No	—	NA	15.3	NONE	INACTIVE
East Slurry Cell	No	No	No	—	NA	NA	NONE	IN ACTIVE
West Slurry Cell	No	No	No	—	NA	NA	NONE	IN ACTIVE

Refuse Pile	Instability (Yes/No)	Structural Weakness (Yes/No)	Hazardous Conditions (Yes/No)	*Other	Comments
Coarse Refuse Pile	No	No	No	FULL TO CAPACITY NO SMOKE VISIBLE	No CHANGE / INACTIVE

*Other = Any existing or required monitoring procedures, instrumentation, or aspects of the structure or facility eligible

Date 6/24/94
State of Utah No. 170148
Professional Engineer Elbert E. Boyd

LICENSED PROFESSIONAL ENGINEER
No. 170148
ELBERT E. BOYD
STATE OF UTAH

INSPECT.XLS

SUNNYSIDE COGENERATION ASSOCIATES
ACT/007/035
QUARTERLY INSPECTION OF IMPOUNDMENTS AND REFUSE PILE

Quarter THIRD (INSPECTED SEPT 29)
Year 1994
Weather Conditions PTLY CLDY

IMPOUNDMENT	INSTABILITY (Yes/No)	STRUCTURAL WEAKNESS (Yes/No)	HAZARDOUS CONDITIONS (Yes/No)	WATER DEPTH (feet)	WATER ELEVATION (feet)	STORAGE CAPACITY (acre-feet)	*OTHER	COMMENTS
Clear Water Pond (004)	No	No	No	0'	0'	4.9	—	IN ACTIVE
Railcut Sediment Pond (007)	No	No	No	.60	6206.6	4.8	—	NO DISCARGE
Old Coarse Refuse Road Sediment Pond (008)	No	No	No	1.00	6395.0	0.9	—	NO DISCHARGE
Pasture Sediment Pond (009)	No	No	No	2.20	6486.7	1.0	—	NO DISCHARGE
New Coarse Refuse Toe Sediment Pond (012)	No	No	No	1.80	6177.8	1.6	—	NO DISCHARGE
Borrow Area Pond (016)	No	No	No	DAMP	—	8.3	—	NO DISCHARGE
Slurry Pond #1	No	No	No	—	NA	16.4	—	IN ACTIVE
Slurry Pond #2	No	No	No	—	NA	15.3	—	IN ACTIVE
East Slurry Cell	No	No	No	—	NA	NA	—	IN ACTIVE
West Slurry Cell	No	No	No	—	NA	NA	—	IN ACTIVE

Refuse Pile	Instability (Yes/No)	Structural Weakness (Yes/No)	Hazardous Conditions (Yes/No)	*Other	Comments
Coarse Refuse Pile	No	No	No	FULL TO CAPACITY NO SMOKE VISIBLE	IN ACTIVE

*Other = Any existing or required monitoring procedures, instrumentation, or aspects of the structure affecting stability.

Date_____
State of Utah No._____
Professional Engineer_____

SUNNYSIDE COGENERATION ASSOCIATES
ACT/007/035
QUARTERLY INSPECTION OF IMPOUNDMENTS AND REFUSE PILE

Quarter Fourth (Inspected Dec. 19)
Year 1994
Weather Condition Partly cloudy

IMPOUNDMENT	INSTABILITY (YES/NO)	STRUCTURAL WEAKNESS (YES/NO)	HAZARDOUS CONDITIONS YES/NO)	WATER DEPTH (FEET)	WATER ELEVATION (FEET)	STORAGE CAPACITY (ACRE-FEET)	*OTHER	COMMENTS
Clear Water Pond (004)	No	No	No	0'	0'	4.9	---	In Active
Railcut Sediment Pond (007)	No	No	No	Dry	0'	4.8	---	Snow Cover
Old Coarse Refuse Road Sediment Pond (008)	No	No	No	Dry	0'	0.9	---	Snow Cover
Pasture Sediment Pond (009)	No	No	No	1'	6484.5	1.0	No Discharge	Ice/Snow Cover
New Coarse Refuse Toe Sediment Pond (012)	No	No	No	1.8'	6177.8	1.6	No Discharge	Ice/Snow Cover
Borrow Area Pond (016)	No	No	No	Dry	---	8.3	---	Snow Cover
Slurry Pond #1	No	No	No	---	NA	16.4	---	In Active
Slurry Pond #2	No	No	No	---	NA	15.3	---	In Active
East Slurry Cell	No	No	No	---	NA	NA	---	In Active
West Slurry Cell	No	No	No	---	NA	NA	---	Coarse Refuse Removal
Coal Runoff Sediment Pond (014)	No	No	No	Dry	0'	1.5	---	Has Been Cleaned Out

REFUSE PILE	INSTABILITY (YES/NO)	STRUCTURAL WEAKNESS (YES/NO)	HAZARDOUS CONDITIONS (YES/NO)	*OTHER	COMMENTS
Coarse Refuse Pile	No	No	No	Full to capacity; no smoke visible.	In Active
Excess Spoil Area	No	No	No	---	Drainage Ditch In Place

*Other = Any existing or required monitoring procedures, instrumentation, or reports of the structure affecting stability.

Date 12/19/94

State of Utah No. 170148

Professional Engineer Alan E. Boyd

REGISTERED PROFESSIONAL ENGINEER No. 170148 ALAN E. BOYD STATE OF UTAH

C:\WPWIN\SHERRY\COMAS\IMPOUND1.RPT

APPENDIX D

Appendix D

Table D-1: Sunnyside Cogeneration Facility
1994 Monthly Quantities of Refuse Mined

	Coarse (tons)	Silt (tons)	Total (tons)
January	22,094	7,163	29,257
February	30,003	7,893	37,896
March	28,471	7,151	35,622
April	21,218	6,802	28,020
May	20,099	6,603	26,702
June	30,234	7,912	38,146
July	27,616	7,187	34,803
August	30,662	7,991	38,653
September	23,523	6,912	30,435
October	18,322	6,103	24,425
November	28,879	7,263	36,142
December	22,903	6,996	29,899
Total	304,024	85,976	390,000

Appendix D

Table D-2: Sunnyside Cogeneration Facility 1994 Monthly Summary of Coal Analyses

	MOISTURE	ASH	SULFUR	B/LB	HVF
January	8.43	54.3	0.81	5,006	13,483
February	7.99	55.0	0.89	4,823	13,091
March	7.88	63.6	0.87	5,335	13,111
April	7.23	62.4	0.82	5,645	14,027
May	6.52	52.6	0.77	5,499	13,469
June	7.23	51.3	0.81	5,707	13,797
July	5.78	53.1	0.85	5,594	13,598
August	5.37	50.5	0.78	6,466	13,825
September	5.97	49.6	0.99	5,795	13,066
October	9.03	48.7	0.75	5,727	13,543
November	8.76	50.3	0.82	5,532	13,499
December	8.90	50.1	0.85	5,580	13,593
Annual Average	7.42	53.5	0.83	5,559	13,508

APPENDIX E

STATE OF UTAH
DEPARTMENT OF COMMERCE
DIVISION OF CORPORATIONS AND COMMERCIAL CODE

PROFIT CORPORATION ANNUAL REPORT

The following information is on file in this office. All profit corporations must file their annual reports and corrections within the month o Their anniversary date. Failure to do so will result in Delinquency, Suspension, then Revocation or Involuntary Dissolution of the corporate charter.

THIS BOX MUST BE COMPLETED

CORPORATE NAME, REGISTERED AGENT, REGISTERED OFFICE, CITY, STATE & ZIP

CORPORATION # 120447
F 04/29/86

1. KAISER POWER OF SUNNYSIDE, INC.
2. C T CORPORATION SYSTEM
3. 50 W BROADWAY 8TH FLOOR
4. SALT LAKE CITY UT 84101-2006

MAKE ALL CORRECTIONS IN THIS COLUMN

(Print New Agent Name) NEW AGENT MUST SIGN ABOVE

NEW REGISTERED STREET ADDRESS REQUIRED

(New City) REGISTERED AGENT MUST BE IN UTAH UTAH (Zip)

WHEN CHANGING THE REGISTERED AGENT THE NEW AGENT MUST SIGN.

5. INCORPORATED IN THE STATE AND UNDER THE LAWS OF: DELAWARE

6. ADDRESS OF THE PRINCIPAL OFFICE IN THE HOME STATE.

(Street Address) (State or Country)
(City) (ZIP)

7. BUSINESS PURPOSE: DEPT. OF COMMERCE MISCELLANEOUS

DOMESTIC, PROFIT CORPORATIONS ARE REQUIRED TO LIST A CORPORATE OFFICER.

OFFICERS

8. PRESIDENT JOSEPH E CRESCI
ADDRESS 83 DUCKS HEAD POB 452
CITY, STATE & ZIP NEW CASTLE NH 03854

9. VICE PRESIDENT DONALD A LIVINGSTON
ADDRESS 33 MARKET ST
CITY, STATE & ZIP PORTSMOUTH NH 03801

10. SECRETARY BAYARD R. KRAFT, III
ADDRESS RR 1 BOX 149
CITY, STATE & ZIP DORSET VT 05251

11. TREASURER BAYARD R. KRAFT, III
ADDRESS RR 1 BOX 149
CITY, STATE & ZIP DORSET VT 05251

8.

9. Donald A. Livingston
79 Daniel Street
Portsmouth, NH 03801

10.

11.

IF YOU HAVE LESS THEN 3 SHAREHOLDERS YOU MAY LIST LESS THAN 3 DIRECTORS. IF YOU HAVE NO DIRECTORS DUE TO SECTION 16-10A-722 YOU MUST STATE SO IN THE BOX BELOW

DIRECTORS

12. DIRECTOR JOSEPH E CRESCI
ADDRESS 83 DUCKS HEAD POB 452
CITY, STATE & ZIP NEW CASTLE NH 03854

13. DIRECTOR
ADDRESS
CITY, STATE & ZIP

14. DIRECTOR
ADDRESS
CITY, STATE & ZIP

12.

13.

14.

Under penalties of perjury and as an authorized officer, I declare that this annual report and, if applicable, the statement change of registered office and/or agent, has been examined by me and is, to the best of my knowledge and belief, true, correct, and complete.

15. BY [signature] MUST BE SIGNED BY A CORPORATE OFFICER

16. SECRETARY / TREASURER (Title or Position)

17. MARCH 17 1995 (Date)

IF THERE ARE NO CHANGES FROM THE PREVIOUS YEAR, AND YOU HAVE ALL CORPORATE REQUIREMENTS FILLED PERTAINING TO OFFICER AND DIRECTOR INFORMATION YOU MAY DETACH THE COUPON BELOW, AND RETURN IT IN THE ENCLOSED ENVELOPE WITH YOUR PAYMENT. YOU MAY KEEP THE ABOVE REPORT FOR YOUR RECORDS.

MAKE ALL CORRECTIONS ON THE FORM ABOVE

FORM NDBZ31

ENVIRONMENTAL POWER CORPORATION
P.O. BOX 45
MANCHESTER, VERMONT 05254

EXPLANATION	AMOUNT	

5-255/110

2038

PAY AMOUNT OF Fifteen & 00/100 DOLLARS

DATE	TO THE ORDER OF		CHECK NUMBER
3/17/95	State of Utah	KPS, Inc. Annual Report	2038

CHECK AMOUNT $ 15.00

120447

WAINWRIGHT BANK & TRUST
BOSTON, MASSACHUSETTS

ENVIRONMENTAL POWER CORPORATION

⑈002038⑈ ⑆011002550⑆ 70 106874 ⑈

STATE OF UTAH
DEPARTMENT OF COMMERCE
DIVISION OF CORPORATIONS AND COMMERCIAL CODE

PROFIT CORPORATION ANNUAL REPORT

The following information is on file in this office. All profit corporations must file their annual reports and corrections within the month of their anniversary date. Failure to do so will result in Delinquency, Suspension, then Revocation or Involuntary Dissolution of the corporate charter. THIS BOX MUST BE COMPLETED

CORPORATE NAME, REGISTERED AGENT, REGISTERED OFFICE, CITY, STATE & ZIP

CORPORATION # 120455
F 04/25/86
1. KAISER SYSTEMS, INC.
2. C T CORPORATION SYSTEM
3. 50 W BROADWAY 8TH FLOOR
4. SALT LAKE CITY UT 84101-2006

MAKE ALL CORRECTIONS IN THIS COLUMN

(Print New Agent Name) NEW AGENT MUST SIGN ABOVE

NEW REGISTERED STREET ADDRESS REQUIRED

(New City) UTAH REGISTERED AGENT MUST BE IN UTAH (Zip)

WHEN CHANGING THE REGISTERED AGENT THE NEW AGENT MUST SIGN.

5. INCORPORATED IN THE STATE AND UNDER THE LAWS OF: DELAWARE

6. ADDRESS OF THE PRINCIPAL OFFICE IN THE HOME STATE.

(Street Address) (State or Country)
(City) (ZIP)

7. BUSINESS PURPOSE: DEPT. OF COMMERCE MISCELLANEOUS

DOMESTIC, PROFIT CORPORATIONS ARE REQUIRED TO LIST A CORPORATE OFFICER.

OFFICERS

8. PRESIDENT JOSEPH E CRESCI
ADDRESS 83 DUCKS HEAD POB 452
CITY, STATE & ZIP NEW CASTLE NH 03854

9. VICE PRESIDENT DONALD A LIVINGSTON
ADDRESS 33 MARKET ST
CITY, STATE & ZIP PORTSMOUTH NH 03801

10. SECRETARY BAYARD R. KRAFT, III
ADDRESS RR 1 BOX 149
CITY, STATE & ZIP DORSET VT 05251

11. TREASURER BAYARD R KRAFT III
ADDRESS R R 1 BOX 149
CITY, STATE & ZIP DORSET VT 05251

8.

9. Donald A. Livingston
79 Daniel Street
Portsmouth, NH 03801

10.

11.

IF YOU HAVE LESS THEN 3 SHAREHOLDERS YOU MAY LIST LESS THAN 3 DIRECTORS. IF YOU HAVE NO DIRECTORS DUE TO SECTION 16-10A-732 YOU MUST STATE SO IN THE BOX BELOW.

DIRECTORS

12. DIRECTOR JOSEPH E CRESCI
ADDRESS 83 DUCKS HEAD POB 452
CITY, STATE & ZIP NEW CASTLE NH 03854

13. DIRECTOR
ADDRESS
CITY, STATE & ZIP

14. DIRECTOR
ADDRESS
CITY, STATE & ZIP

12.

13.

14.

Under penalties of perjury and as an authorized officer, I declare that this annual report and, if applicable, the statement change of registered office and/or agent, has been examined by me and is, to the best of my knowledge and belief, true, correct, and complete.

15. BY [signature] MUST BE SIGNED BY A CORPORATE OFFICER

16. SECRETARY / TREASURER (Title or Position)

17. MARCH 17 1995 (Date)

IF THERE ARE NO CHANGES FROM THE PREVIOUS YEAR, AND YOU HAVE ALL CORPORATE REQUIREMENTS FILLED PERTAINING TO OFFICER AND DIRECTOR INFORMATION YOU MAY DETACH THE COUPON BELOW, AND RETURN IT IN THE ENCLOSED ENVELOPE WITH YOUR PAYMENT. YOU MAY KEEP THE ABOVE REPORT FOR YOUR RECORDS.

MAKE ALL CORRECTIONS ON THE FORM ABOVE.

FORM NDBZ31

ENVIRONMENTAL POWER CORPORATION
P.O. BOX 45
MANCHESTER, VERMONT 05254

EXPLANATION	AMOUNT

5-255/110

2039

PAY AMOUNT OF Fifteen & 00/100 DOLLARS

CHECK AMOUNT

DATE	TO THE ORDER OF		CHECK NUMBER	
3/17/95	State of Utah	KSI Annual Report	2039	$ 15.00

120455

WAINWRIGHT BANK & TRUST
BOSTON, MASSACHUSETTS

ENVIRONMENTAL POWER CORPORATION

⑈002039⑈ ⑆011002550⑆ 70 106874 ⑈

APPENDIX F

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY

Michael O. Leavitt
Governor
Dianne R. Nielson, Ph.D.
Executive Director
Russell A. Roberts
Director

150 North 1950 West
Salt Lake City, Utah 84114
(801) 536-4000
(801) 536-4099 Fax
(801) 536-4414 T.D.D.

Reply to: State of Utah
Division of Air Quality
P.O. Box 144820
Salt Lake City, Utah 84114-4820

DAQE-0077-94

February 7, 1994

David R. Pearce
Sunnyside Cogeneration Associates
P.O. Box 58087
Salt Lake City, Utah 84158-0087

Re: Modified Approval Order For Cogeneration Plant, Sunnyside Mine
Carbon County - CDS A1 ATT PSD NSPS Title V Major

Dear Mr. Pearce:

The attached document is an Approval Order for the above referenced project.

Please direct any technical questions you may have on this project to Mr. Doug Jones. He may be reached at (801) 536-4061.

Sincerely,

Russell A. Roberts, Executive Secretary
Utah Air Quality Board

RAR:DJ:dn

cc: EPA Region VIII, Mike Owens
Southeastern Utah District Health Department

Printed on recycled paper

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

MODIFIED APPROVAL ORDER FOR COGENERATION PLANT, SUNNYSIDE MINE

Doug Jones, Engineer

APPROVAL ORDER NUMBER
DAQE-0077-94

Date: February 7, 1994

Source

SUNNYSIDE COGENERATION ASSOCIATES

Russell A. Roberts
Executive Secretary
Utah Air Quality Board

The above-referenced project has been evaluated and found to be consistent with the requirements of the Utah Air Conservation Rules (UACR) and the Utah Air Conservation Act. The Division of Air Quality determined that a public comment period was not required for this project. This air quality AO authorizes the project with the following conditions, and failure to comply with any of the conditions may constitute a violation of this order.

General Conditions

1. Sunnyside Cogeneration Associates, with a corporate address of P.O. Box 58087, Salt Lake City, Utah, 84158-0087, and power generating facilities at Sunnyside, Carbon County, shall construct and operate the cogeneration facility consisting of one fluidized bed combustion unit fired on waste coal according to the information submitted in the Notice of Intent dated December 20, 1985, and additional information received June 22, 1987; April 24, 1990; September 4, 1990; January 17, 1991; February 8, 1991; and August 30, 1993.

2. This AO shall replace and void the AOs dated June 22, 1988; August 16, 1990; December 28, 1990; February 8, 1991; and March 8, 1991.

3. A copy of this AO shall be posted on site, and shall be available to the employees who operate the air emission producing and emissions control equipment. All employees who operate the air emission producing equipment and emissions control equipment shall receive instruction as to their responsibilities in operating the equipment in compliance with the appropriate and relevant conditions of this order.

4. The approved installations shall consist of the following air emissions producing equipment and auxiliary equipment located at the site:

   A. Coal tailings, handling, and storage

   B. Limestone and ash handling and storage

   C. One boiler (fluidized bed with baghouse)

   D. Pollution control equipment and monitoring equipment

   E. Instrumentation monitoring and control

   F. Other associated equipment

5. Visible emissions from the following emission points shall not exceed the following values:

   A. Fluidized bed boiler stack - 10% opacity at all times, except for one six-minute period per 60-minute period, during which the opacity shall not exceed 27%

   B. Fuel receiving hoppers - 10% opacity

C. Conveying operations - 10% opacity

D. Conveyor transfer points (evacuated to a baghouse) - 7% opacity

E. Bulk storage of coal - 10% opacity

F. Crushing (evacuated to a baghouse) - 7% opacity

G. All baghouses (except for the main boiler stack) - 7% opacity

H. Limestone receiving - 10% opacity

I. Limestone bulk storage - 7% opacity

J. Diesel engine exhaust - 20% opacity

K. All other points - 10% opacity

6. Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9. Opacity observations of intermittent sources shall use procedures similar to Method 9, but the requirement for observations to be made at 15-second intervals over a six-minute period shall not apply.

7. All unpaved roads and other unpaved operational areas which are used by mobile equipment shall be water sprayed and/or chemically treated to reduce fugitive dust. Control is required at all times (24 hours per day every day) for the duration of the project/operation. The application rate of water shall be a minimum of 0.25 gallons per square yard. Application shall be made at least once every two hours during all times the installation is in use unless daily rainfall exceeds .10 of an inch or unless the road is in a muddy/damp/moist condition or unless it is below freezing. If chemical treatment is to be used, the plan must be approved by the Executive Secretary. Records of water treatment shall be kept for all periods when the plant is in operation. The records shall include the following items:

A. Date
B. Number of treatments made, dilution ratio, and quantity
C. Rainfall received, if any, and approximate amount
D. Time of day treatments were made

Records of treatment shall be made available to the Executive Secretary upon request and shall include a period of two years ending with the date of the request.

8. The sulfur content of any fuel oil burned shall not exceed 0.85 pounds of sulfur per million BTU heat input as determined by ASTM Method D-4239-83. The sulfur content shall be tested if directed by the Executive Secretary.

9. In addition to the requirements of this AO, all provisions of 40 CFR 60 NSPS Subparts A and Db apply to this source.

10. The emission rates/concentrations from the main boiler stack shall not exceed any of the following values:

    A. 0.025 lb particulate per 10^6 BTU heat input

    B. 0.42 lb SO_2 per 10^6 BTU heat input

    C. 0.25 lb NO_x per 10^6 BTU heat input

    D. 0.085 lb CO per 10^6 BTU heat input

11. Stack testing to show compliance with the emission limitations of condition #10 shall be performed as specified below:

Emission Point	Pollutant	Testing Status	Test Frequency
Boiler stack	PM_{10}	*	Every 5 yrs
	SO_2	**	Continuous
	NO_x	***	Continuous
	CO	****	annually

Testing Status (To be applied above)

* Initial compliance testing is required. The initial test date shall be within 180 days after the start-up or in accordance with 40 CFR 60.8 and 60.46b, whichever date comes first.

** SO_2 emissions compliance shall be demonstrated in accordance with 40 CFR 60.8(b), 8(f) and 60.45b.

*** NO_x emissions compliance shall be demonstrated in accordance with 40 CFR 60.8 and 60.46b.

**** Initial compliance testing is required. The initial test date shall be within 180 days after the start-up or in accordance with 40 CFR 60.8, whichever date comes first.

12. The test methods used shall be as follows:

    A. Particulate - Appropriate methods as described in 40 CFR 60.46b

    B. SO_2 - Appropriate method as described in 40 CFR 60, Appendix A, Method 6, 6a, 6b, or 6c at the option of the owner

    C. NO_x - Appropriate method as described in 40 CFR 60.46b

D. CO - Appropriate method as described in 40 CFR 60, Appendix A, Method 10 or 10b

The owner/operator shall comply with 40 CFR 60.46b(b) when conducting compliance testing for particulate, 60.46b(c) and (e) for nitrogen oxides, 60.45b(b) and (c) for sulfur oxides and Condition 12.D for CO.

Notification of the test date shall be provided at least 30 days prior to the test. A pretest conference shall be held. It shall be held at least 30 days prior to the test between the owner/operator, the tester, and the Executive Secretary. The emission points shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approvable access shall be provided to the test locations.

To determine mass emission rates (lbs/hr, etc.), the pollutant concentration as determined by the appropriate methods above, shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

The production rate during all compliance testing shall be no less 52 megawatts or 90% of the production rate at which the facility will be operated. For an existing source/emission point, the production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three years.

13. Total production of electricity shall not exceed 506,700 megawatt-hours per 12-month period (approximately a 58 gross MW plant). Compliance with the annual limitation shall be determined on a rolling 12-month total. Based on the first day of each month, a new 12-month total shall be calculated using the production of the previous 12 months. Records of electricity production shall be kept for all periods when the plant is in operation. Records of electricity production shall be made available to the Executive Secretary or his representative upon request and shall include a period of two years ending with the date of the request. Compliance with the limitation shall be determined by examination of power sales records and electrical meter records. Both shall be kept on a daily basis.

14. For sources which are subject to NSPS, visible emission observations which are performed during the initial compliance inspection shall consist of 30 observations of six minutes each in accordance with 40 CFR 60, Appendix A, Method 9. It is the responsibility of the owner/operator of the sources to supply these observations to the Executive Secretary. The only emission point at this source which is subject to NSPS is the main boiler stack.

15. The owner/operator shall install, calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere from the main boiler stack and record the output of the system. The monitoring system shall be used for measuring and determining compliance. The continuous monitoring system shall comply with all applicable provisions of 40 CFR 60.48b and 40 CFR 60 Appendix B, Specification 1.

16. The owner/operator shall install, calibrate, maintain, and operate a continuous monitoring system for measuring nitrogen oxides emissions discharged to the atmosphere from the main boiler stack and record the output of the system. The monitoring system shall be used for measuring and determining compliance. The continuous monitoring system shall comply with all applicable provisions of 40 CFR 60.48b and 40 CFR 60, Appendix B, Specification 2.

17. The owner/operator shall install, calibrate, maintain, and operate a continuous monitoring system for measuring sulfur dioxide emissions discharged to the atmosphere from the main boiler stack and record the output of the system. The monitoring system shall be used for measuring and determining compliance. The continuous monitoring system shall comply with all applicable provisions of 40 CFR 60, Appendix B, Specification 2 and 40 CFR 60.47b.

18. The owner/operator shall install, maintain, calibrate, and operate a continuous monitoring system for measuring the CO_2 or O_2 in the main boiler stack. The monitoring system shall comply with the requirements of 40 CFR 60, Appendix B, Specification 3.

19. The owner/operator shall comply with Section 4.6.4, UACR. This regulation addresses breakdown reporting requirements for continuous monitoring systems and quarterly report requirements. Also, the company shall comply with all the reporting and record keeping requirements of 40 CFR 60.49b.

20. All continuous monitoring data shall be recorded and shall be kept by the owner/operator for a minimum period of two years after the date on which the emissions occurred, and shall be made available to the Executive Secretary or his representative upon request.

21. The percent excess air shall not be less than 10%.

22. During the pretest conference the owner/operator shall submit a monitoring plan and a quarterly report format to the Executive Secretary for review and approval/disapproval. The monitoring plan shall include all of the required monitors.

23. The Sunnyside Cogeneration Plant shall perform post construction meteorological monitoring for wind speed, wind direction, temperature, and atmospheric stability.

    A post construction monitoring plan shall be submitted to the Executive Secretary for approval within 30 days of the date of this AO and prior to data collection.

    The monitoring plan shall outline the monitoring program according to requirements contained in the State of Utah "Preparation and Engineering Assessment of a Notice of Intent, A Methodology, Second Edition", and "Ambient and Meteorological Monitoring Requirements for Prevention of Significant Deterioration (PSD) and Workbook Analysis, Utah Division of Air Quality, October 1992. Post construction monitoring shall not commence prior to monitoring plan approval and shall only be terminated after a minimum of one year of approved data is collected.

    Modeling shall be required using approved modeling methods and the approved meteorological data collected. A modeling protocol shall be submitted within 30 days

from the completion of meteorological monitoring. Modeling results shall be submitted within 30 days of approval of the modeling protocol.

24. Eighteen months from the date of this AO the Executive Secretary shall be notified in writing of the status of construction of this project unless the construction is complete and operation has commenced.

25. All installations and facilities authorized by this AO shall be adequately and properly maintained.

26. The Executive Secretary shall be notified in writing upon start-up of the installation as an initial compliance inspection is required.

Any future modifications to the equipment approved by this order must also be approved in accordance with Section 3.1.1, UACR.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including the UACR.

Annual emissions for this source (the entire plant) are currently calculated at the following values:

A. 75.00 tons/yr for particulate
B. 66.00 tons/yr for PM_{10}
C. 1050.00 tons/yr for SO_2
D. 617.00 tons/yr for NO_x
E. 32.00 tons/yr for VOC
F. 219.00 tons/yr for CO

These calculations are for the purposes of determining the applicability of Prevention of Significant Deterioration (PSD) and nonattainment area major source requirements of the UACR. They are not to be used for purposes of determining compliance.

Approved By:

Russell A. Roberts, Executive Secretary
Utah Air Quality Board

APPENDIX G

Huntingdon

Prepared For:

SUNNYSIDE COGENERATION ASSOCIATES
POST OFFICE BOX 10
EAST CARBON, UTAH 84520

REPORT OF QUARTERLY AMBIENT AIR MONITORING RESULTS AT THE SUNNYSIDE COGENERATION FACILITY SUNNYSIDE, UTAH OCTOBER - DECEMBER, 1994

Prepared By:

HUNTINGDON ENGINEERING & ENVIRONMENTAL, INC.
1127 WEST 2320 SOUTH, SUITE B
SALT LAKE CITY, UTAH 84119

Huntingdon Project No. 51-104-93

March 31, 1995

SUNNYSIDE COGENERATION ASSOCIATES
Sunnyside Cogeneration Facility
Post Office Box 10
East Carbon, Utah 84520
(801) 888-4476
(801) 888-2538 fax

March 31, 1995

Mr. Rolf Doebbeling
Quality Assurance Coordinator
UDEQ Air Quality Division
150 North 1950 West
Salt Lake City, Utah 84119

SUBJECT: Quarterly Monitoring Report
Monitoring Period: October, November, December, 1994
Ambient Air Monitoring
Sunnyside Cogeneration Facility

Dear Mr. Doebbeling:

This quarterly report presents the meteorological data collected by Huntingdon Engineering & Environmental, Inc., at the Sunnyside Cogeneration Facility, Sunnyside, Utah, for the October, November, and December, 1994, monitoring period. This ambient-air monitoring report for the Sunnyside Cogeneration Facility is in compliance with the Utah Division of Air Quality (UDAQ) Modified Approval Order No. DAQE-0077-94.

The meteorological data has been compiled in DOS ACSII format and also spreadsheet form, as required by the UDAQ. Four computer hard-drive disks containing the meteorological data are also included with this report.

The next quarterly report will be submitted by the end of June, 1995, as per UDAQ requirements. Please contact me at (801) 888-4476, if you have any questions or comments concerning this report and I will place you in contact with the scientists having conducted this work.

Sincerely,

SUNNYSIDE COGENERATION ASSOCIATES

James T. O'Donnell
Acting Plant Manager

JTO/lls

c.c. Mr. Doug Burnham, Babcock & Wilcox
Mr. Bob Evans, NRG Energy, Inc.
Mr. Tom Eckstein, SCA Marketing Manager
Mr. Richard Giraud, Huntingdon Engineering

Enclosures:

Quarterly Air Monitoring Report
Computer disks

Huntingdon

Huntingdon Engineering & Environmental, Inc.

1127 West 2320 South, Suite B
Salt Lake City, Utah 84119
(801) 972-4787
Fax: (801) 972-4552

March 31, 1995

Sunnyside Cogeneration Associates
P.O. Box 10
East Carbon, Utah 84520

Attention: Jim O'Donnell, Acting Plant Manager

Subject: Quarterly Monitoring Report
Monitoring Period: October, November, December 1994
Ambient Air Monitoring
Sunnyside Cogeneration Facility
Huntingdon Project No.: 51-104-93

Dear Mr. O'Donnell:

This quarterly monitoring report presents the meteorological data collected by Huntingdon Engineering & Environmental, Inc. at the Sunnyside Cogeneration Facility for the October, November, and December 1994 monitoring period. The ambient-air monitoring report is required as part of the Utah Division of Air Quality (UDAQ) Modified Approval Order No. DAQE-0077-94. The meteorological data has been compiled in DOS ASCII format and also spreadsheet form, as required by UDAQ.

The next quarterly report will be submitted by the end of June 1995 as per UDAQ requirements. Please contact myself or Terry Chatwin of Huntingdon at (801) 972-4787 if you have any questions or comments concerning this report.

Sincerely,

Huntingdon Engineering & Environmental, Inc.

Ron Gossard

Ron Gossard
Staff Engineer

Enclosure:

Quarterly Ambient Air Monitoring Report

N:\GOSSARD\SCWM\QRT0395.RO1

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APPENDICES

Appendix A ASCII FORMAT OF METEOROLOGICAL VALUES
Appendix B AUDIT REPORT DOCUMENTATION
Appendix C CALIBRATION DOCUMENTATION
Appendix D FIELD LOG BOOK DOCUMENTATION

1.0 INTRODUCTION

This report presents the meteorological data collected from October, November, and December 1994 by Huntingdon Engineering & Environmental, Inc. (Huntingdon) at the Sunnyside Cogeneration Facility, Sunnyside, Utah for the Sunnyside Cogeneration Associates in accordance with the Utah Division of Air Quality (UDAQ) Modified Approval Order No. DAQE-0077-94. As per DAQ Modified Approval Order requirements, a meteorological station was installed on SCA property to monitor wind speed, wind direction, and air temperature. The station was installed on September 19 and 20, 1994. The location of the monitoring station is shown in Figure 1.

2.0 METEOROLOGICAL DATA

Continuous collection of meteorological data was retrieved from the station from October to December 1994 and continues to be collected until the UDAQ minimum data recovery requirements are achieved. The following sections detail the data recovery procedures, the accepted data values and the data recovery percentage for each parameter, and data recovery problems that occurred during this quarterly monitoring period.

2.1 DATA RECOVERY PROCEDURES

Data from the meteorological station was retrieved in the field using a laptop personnel computer. Meteorological data were then downloaded from the laptop computer to the Huntingdon computer network for data reduction. The data were compiled in LOTUS spreadsheets so that hourly and daily values for each month could be reviewed and analyzed. The data were also compiled in DOS compatible ASCII format. The hourly meteorological values for each month are shown in Tables 1 through 12, and the ASCII format data are presented in Appendix A. The ASCII format data are also included on four computer disks that were enclosed with this report.

2.2 DATA RESULTS

The meteorological data for temperature in October 1994 met the data screening criteria. None of the temperature values exceeded the record high or low and none of the hourly values changed greater than 9 degrees from the previous hour. Most of the data for wind speed and wind direction met the data screening criteria. However, the wind speed data on October 16 from 0400 to 1000 hours should be considered invalid because the values did not change greater than 0.22 miles per hour (mph) in three consecutive hours. The wind direction data on October 16 from 0400 to 1000 hours should also be considered invalid because values of 0 degrees was observed in three consecutive hours without any change in degrees. Tables 1 through 4 show the meteorological data for October 1994.

The meteorological data for the month of November 1994 were successfully collected from November 1 to November 9 at 1500 hours. The wind speed and wind direction on November

3 from 0400 to 0800 hours did not meet data screening criteria because a 0 value was recorded for four consecutive hours. Data for wind speed, wind direction, temperature, and sigma theta were not collected from November 9 at 1600 hours to November 31 and should be considered invalid because data screening criteria were not met. The reason for the invalid data was due to an electrical power loss in the Campbell CR10 data logger. Because the data logger did not have electrical power, it did not store the various parameter input values. The data logger was sent to MET ONE Instruments for inspection and the station's battery and fuses were replaced. The data logger was fixed by MET ONE personnel, re-calibrated, and again installed onto the station. Continuous collection of meteorological data resumed on December 7 at 1500 hours. Tables 5 through 8 show the meteorological data for November 1994.

Meteorological data for December 1994 was successfully retrieved from December 7 at 1500 hours to the end of the month. The data from December 1 to December 7 at 1400 hours did not meet data screening criteria. However, the data for temperature, wind speed, wind direction, and sigma theta met the data screening criteria for the remainder of the month. Tables 9 through 12 show the meteorological data for December 1994.

2.3 MONTHLY AND QUARTERLY PERCENT DATA RECOVERY

The percent data recovery for each parameter in the month of October was above the UDAQ requirement of fifty percent. The wind speed, wind direction, and sigma theta data was ninety-nine percent recovered while one hundred percent of the temperature data was recovered. Due to the data logger's malfunctioning in November, the percent data recovery for each parameter was below the UDAQ requirement of fifty percent. Twenty-seven percent of the wind speed, wind direction, and sigma theta data was recovered and twenty-eight percent of the temperature data was recovered for the month. The percent data recovery for each parameter in the month of December was above the UDAQ requirement of fifty percent. The wind speed, wind direction, temperature, and sigma theta data was seventy-nine percent recovered. The monthly percent data recovery for each parameter are shown in Table 13.

Due to the malfunctioning of the data logger in November, the percent data recovery for the quarter did not meet the UDAQ requirement of seveny-five percent. The percent data recovery for the wind speed, wind direction, and sigma theta parameters was sixty-eight percent while sixty-nine percent of the temperature data was recovered for the quarter. The quarterly percent data recovery for each parameter are shown in Table 13.

The meteorological data collected for October and December met data screening criteria and the monthly percent data recovery requirements and should therefore be considered valid. The November data did not meet data screening criteria nor the monthly percent data recovery requirements. Subsequently, data could be collected by Huntingdon through November 1995 to properly meet UDAQ requirements.

3.0 QUALITY ASSURANCE AND QUALITY CONTROL

Quality assurance and quality control (QA/QC) procedures were followed to ensure that valid data was collected. QA/QC procedures included proper documentation of instrument calibrations and field activities involving the meteorological station, an independent audit, and quality control checks.

3.1 INDEPENDENT AUDIT RESULTS

An audit of the meteorological station was performed on November 1, 1994 by SECOR Environmental Engineering. The audit report entitled "Sunnyside Cogeneration Facility Meteorological Station, Performance Audit, November 1, 1994" was submitted to the UDAQ at the end of March, 1995. The performance audit found that the wind speed and wind direction were within the acceptable limits established by the UDAQ.

The temperature audit results indicated that the comparison of the sensor temperature with the mercury thermometer readings were not within the recommended tolerance set by UDAQ. The average audit error for the temperature sensor was 1.5 degrees Celsius, which was not within the accepted DAQ error limit of 0.5 degrees Celsius. SECOR stated that the difference between these readings can be explained in part by measurement error and the error in the temperature sensor. SECOR personnel recommended that re-calibration of the temperature sensor should be performed to bring the tolerance within the recommended UDAQ limit. The audit results from the SECOR report are included in Appendix B.

The temperature sensor was within calibration specifications prior to shipment from the MET ONE laboratory and during installation on the meteorological station. Based on the audit information, the decision was made to replace the temperature sensor. A new temperature probe was installed on January 26, 1995 by MET ONE and Huntingdon personnel. The new probe was calibrated on-site by MET ONE. Documentation concerning the MET ONE initial equipment calibration of the sensor and the replacement and re-calibration of the new sensor are included in Appendix C.

The temperature sensor data was reviewed for October and December 1994 using the data screening criteria in the Post-Construction Ambient Air Monitoring Plan to determine the validity of the temperature data. None of the temperature values exceeded the record high or low and none of the values changed greater than 9 degrees from the previous hour. Based on the data review, the temperature data for appears to be valid. Due to the malfunctioning of the data logger, the temperature data did not meet data screening criteria for most of November. The temperature data is shown in Tables 3, 7, and 11 of this report.

The temperature data did not indicate any drastic fluctuations in values which might indicate sensor malfunction. Mr. Rolf Doebbeling, UDAQ, was contacted in regard to the temperature sensor data and commented that the temperature data validity will be evaluated after the second audit.

3.2 CALIBRATION OF METEOROLOGICAL INSTRUMENTS

A calibration test was performed by MET ONE Instruments on each sensor prior to installation The documentation verifying the sensor calibrations previous to installation is shown in Appendix C. After installation, the instrument sensors and data logger were checked by MET ONE personnel to see if they were responding to changes in wind speed, wind direction, and ambient temperature. On September 29, 1994, data was downloaded via laptop computer from the data logger and compared to known regional wind speed and direction values. Based on the data comparison to known regional wind speed, wind direction, and ambient temperature values, the sensors appeared to be collecting reliable meteorological data at the site.

3.3 QUALITY CONTROL CHECKS

Documentation of field activities were written in a hard-bound log book and reviewed for authenticity by SECOR personnel during the independent audit and regularly reviewed by Huntingdon personnel. After the audit report, re-calibration of the temperature probe was discussed and implemented in January 1995. To prevent malfunctioning of the station and to avoid future power loss problems with the station, Huntingdon implemented a weekly station check where SCA personnel would inspect the station for sensor, wiring, solar panel, and data logger damage and power output. The field log book documentation is included in Appendix D of this report.

4.0 CONCLUSIONS

The following conclusions were drawn from the October to December 1994 ambient air monitoring period:

- The meteorological data collected for October and December met the UDAQ data screening criteria and monthly percent data recovery requirements.

- The meteorological data collected for November did not meet the UDAQ data screening criteria nor the monthly percent data recovery requirements. Subsequently, data could be collected by Huntingdon through November 1995 to meet the UDAQ requirements.

- Due to the malfunctioning of the data logger in November, the quarterly percent data recovery for the monitoring period was below UDAQ requirements.

- The quarterly monitoring report for January, February, March 1995 will be submitted in June, 1995.

Please contact myself or Terry Chatwin if there are questions or comments concerning this monitoring report.

Respectively submitted,

Huntingdon Engineering & Environmental, Inc.

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5.0 REFERENCES

Huntingdon Engineering & Environmental, Inc., Post-Construction Ambient Air Monitoring Plan, Sunnyside Cogeneration Associates, Sunnyside Cogeneration Facility, Sunnyside, Utah, July, 1994.

Science & Engineering Analysis Corporation (SECOR), Sunnyside Cogeneration Facility Meteorological Station, Performance Audit, November 1, 1994.

TABLE 1 - MONTHLY WIND SPEED DATA

OCTOBER 1994

DAY \ HOUR	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
1	22.31	19.93	19.85	14.40	16.80	11.52	7.63	23.17	22.27	19.18	12.83	6.47	4.44	6.86	8.91	7.96	8.99	7.57	11.35	10.12	7.48	12.16	16.19	17.73
2	17.74	18.93	20.22	19.63	20.59	15.86	11.75	12.42	15.59	8.87	4.27	2.15	4.79	6.61	6.84	8.61	11.65	12.02	12.73	15.70	6.99	7.89	10.92	14.47
3	14.43	13.56	8.11	11.22	15.23	14.94	8.59	9.79	9.71	9.44	6.44	15.46	24.20	12.60	5.76	15.18	9.48	15.20	16.55	19.42	14.24	18.61	15.37	22.29
4	10.66	10.23	11.50	16.70	17.16	7.68	3.12	8.37	5.19	3.27	5.31	6.73	6.31	5.16	5.20	10.36	3.78	4.88	4.84	2.49	13.95	19.36	11.86	5.01
5	5.61	6.82	3.18	4.16	14.33	19.97	14.65	7.93	14.35	7.50	5.12	16.63	20.87	21.75	24.34	26.34	27.46	31.18	14.77	8.41	8.40	3.39	6.42	6.70
6	6.13	4.20	3.08	5.28	5.98	4.32	4.05	3.53	4.36	5.60	2.55	5.51	9.52	10.75	8.80	16.09	14.80	17.24	16.25	17.11	11.78	5.62	10.98	16.72
7	12.76	7.70	11.77	9.55	9.66	10.97	8.26	5.56	5.96	5.99	4.57	5.25	6.76	6.37	6.19	3.51	4.68	4.57	3.50	2.97	10.98	16.56	20.41	20.52
8	20.51	21.83	17.14	14.13	12.62	14.30	16.64	17.84	20.27	16.98	5.12	6.75	5.16	7.62	5.46	7.03	6.21	6.77	6.03	4.81	10.60	19.77	23.09	23.06
9	24.39	21.53	20.01	21.88	22.77	24.36	25.05	25.03	26.45	21.25	4.31	5.49	6.85	6.39	8.28	7.57	7.74	8.56	7.32	5.39	12.93	22.04	25.27	26.83
10	26.04	25.12	23.53	23.78	21.73	23.14	20.18	21.99	21.87	19.49	8.64	5.30	4.84	7.91	11.28	11.64	11.06	12.70	12.49	6.57	13.24	21.70	23.70	24.79
11	23.67	23.08	20.64	15.92	14.59	19.00	21.61	23.13	22.34	19.30	6.62	4.31	6.50	11.51	13.42	16.77	21.41	19.53	15.66	13.45	11.83	15.85	13.64	13.29
12	19.52	22.34	23.78	24.00	25.11	25.91	25.12	25.98	23.46	18.78	11.76	7.67	7.86	11.17	16.22	15.17	18.00	17.61	13.82	6.27	11.46	13.35	11.85	10.15
13	15.52	17.65	13.07	6.86	7.82	5.95	5.41	5.33	2.90	3.62	3.79	5.52	5.58	11.20	15.39	16.83	17.52	16.95	12.25	4.50	7.68	8.33	14.26	19.13
14	20.86	17.15	17.79	11.56	6.90	13.55	11.03	9.62	16.14	8.36	7.91	14.43	19.20	21.50	25.40	25.84	23.30	22.38	17.00	19.63	11.40	13.92	15.27	16.16
15	21.70	21.42	24.61	23.15	17.23	16.07	16.89	15.03	13.46	2.31	1.80	2.14	3.62	2.73	3.24	3.61	2.82	4.92	4.16	5.69	4.32	4.21	4.37	4.53
16	1.99	4.00	6.86	3.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.38	8.47	9.53	8.33	6.64	6.71	4.60	2.94	2.93	5.77	4.69	3.39	5.76
17	7.78	6.91	5.32	5.68	4.02	6.39	6.53	7.86	2.61	3.18	0.94	0.22	2.52	4.71	4.15	5.23	3.80	2.25	2.18	8.04	5.73	2.83	2.69	6.34
18	8.86	1.94	7.29	8.29	11.07	9.15	4.06	8.46	6.14	8.20	2.64	3.25	3.78	6.66	12.53	11.08	10.49	7.51	5.94	5.73	5.94	9.49	8.03	11.35
19	13.00	10.60	14.50	16.40	17.21	14.79	16.78	14.75	15.50	5.38	2.39	1.88	3.89	6.71	8.78	9.01	8.55	8.43	6.89	5.22	15.72	18.78	20.42	21.94
20	22.60	20.08	21.62	21.03	20.90	21.78	22.23	21.14	21.60	13.41	11.87	5.39	5.35	7.05	9.40	7.24	9.17	7.72	8.30	5.12	16.31	21.73	22.54	23.53
21	24.13	23.86	24.17	23.71	23.17	23.31	22.96	21.53	21.24	20.09	7.77	4.66	7.34	8.39	8.43	8.73	10.11	10.01	7.89	4.16	15.70	17.03	16.55	16.52
22	20.00	20.04	19.29	22.64	23.28	24.20	24.46	22.58	21.62	19.05	11.57	7.82	12.42	11.76	10.05	8.14	6.53	7.64	8.31	5.78	13.91	21.53	22.15	22.96
23	23.85	25.05	25.74	23.47	24.18	24.25	24.61	24.54	24.42	24.47	14.39	3.65	6.38	6.76	6.43	6.80	7.62	9.14	6.86	6.18	19.13	23.10	25.71	25.04
24	25.62	26.32	25.47	26.77	26.38	23.65	24.64	27.59	26.34	19.41	14.89	4.40	7.00	5.79	6.98	7.94	7.77	6.16	6.85	4.88	16.62	20.84	22.72	22.80
25	20.60	19.04	17.64	17.80	18.03	19.23	10.96	18.42	21.64	21.78	7.60	5.38	5.44	5.78	7.75	7.37	9.32	9.19	9.17	6.50	18.17	23.67	26.13	26.48
26	23.28	24.77	24.91	25.81	24.91	24.84	24.74	24.18	22.49	15.20	7.73	4.62	6.36	7.63	8.12	8.07	8.81	6.84	5.86	4.76	14.45	18.83	18.61	20.09
27	19.32	19.55	19.02	17.32	17.81	17.71	21.01	22.13	19.83	17.40	13.72	4.35	3.33	5.95	5.88	6.33	5.67	3.67	2.72	8.34	17.11	19.71	19.94	22.20
28	23.12	16.82	18.39	14.64	14.90	12.26	12.05	14.89	12.92	11.41	4.30	2.35	5.60	7.67	8.07	7.30	7.73	8.34	5.66	9.02	11.37	13.62	13.58	14.90
29	17.27	19.06	21.18	18.96	21.06	22.29	21.61	20.96	16.33	13.74	3.83	2.91	3.79	5.54	8.20	7.61	7.10	9.48	10.67	10.36	15.26	17.31	17.89	17.18
30	18.64	19.93	20.00	18.13	18.13	17.12	16.47	14.32	17.50	17.28	6.03	3.38	5.70	8.87	18.46	24.75	22.63	22.80	19.58	15.52	13.36	10.67	9.45	12.01
31	15.53	15.10	12.40	16.68	17.69	19.86	21.25	22.82	23.85	10.32	10.05	5.44	5.25	6.45	8.05	7.47	7.10	7.89	5.93	1.90	11.88	18.83	16.57	16.16

Values in MPH

TABLE 2 - MONTHLY WIND DIRECTION DATA

OCTOBER 1994

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
1	48.76	50.55	48.33	2.69	46.08	38.44	62.61	48.05	48.24	48.52	46.03	298.50	233.00	276.80	252.70	246.40	244.60	28.43	48.73	53.03	358.50	45.24	45.38	46.17
2	46.59	46.93	47.48	47.97	48.71	49.62	53.18	57.05	51.08	58.57	0.70	31.82	191.30	224.60	224.10	203.80	200.90	210.20	200.70	191.70	185.80	216.00	185.70	171.90
3	170.50	195.20	330.00	56.82	55.35	51.15	10.76	76.30	163.90	352.60	189.40	209.60	179.40	205.00	293.90	335.60	339.50	7.16	64.95	47.35	54.99	38.82	70.20	46.95
4	29.93	75.90	49.64	56.90	47.29	127.50	145.50	68.16	51.32	318.80	331.80	293.00	265.10	269.60	224.10	206.70	306.50	142.10	237.00	298.40	47.31	50.47	127.60	184.00
5	173.30	209.60	295.20	227.70	172.00	169.70	196.20	203.10	182.50	210.10	234.20	187.00	181.10	179.90	177.10	184.30	215.80	310.30	321.20	71.00	351.20	43.28	13.80	12.14
6	353.30	272.90	5.64	198.40	172.20	167.60	112.90	142.10	182.70	161.50	112.80	304.30	316.90	310.70	270.70	308.20	314.00	310.10	311.40	312.10	338.10	36.87	62.29	48.13
7	49.21	86.00	49.99	45.30	36.56	46.66	53.92	19.37	22.97	77.50	281.40	242.10	221.50	209.30	191.50	156.20	120.50	311.40	250.30	7.82	42.48	50.05	45.70	43.36
8	42.40	44.71	47.59	47.34	43.06	41.68	38.76	45.56	42.45	49.47	183.50	224.60	221.90	225.00	271.80	232.50	245.60	271.30	256.00	257.10	51.11	48.64	49.20	50.17
9	50.61	50.22	50.55	48.14	49.96	49.07	50.13	49.97	49.02	50.81	195.70	216.60	216.80	215.40	228.90	248.20	206.10	228.60	232.90	243.20	55.45	48.49	49.63	49.97
10	49.69	48.04	48.61	47.02	47.96	48.65	49.27	47.74	47.70	48.22	62.23	239.10	230.30	218.00	220.10	216.50	208.10	211.00	214.10	234.00	46.79	48.38	48.69	49.36
11	49.53	50.60	51.11	53.03	52.29	49.70	49.90	48.40	48.46	46.63	9.61	281.70	219.50	210.20	207.30	186.90	184.60	178.80	179.50	170.20	174.70	200.30	110.90	59.17
12	49.56	49.82	49.74	50.02	49.49	50.50	49.81	50.31	49.75	48.59	75.60	204.50	209.00	220.60	197.50	192.70	198.70	200.70	188.90	192.60	60.41	67.91	107.20	83.40
13	57.20	50.99	53.92	123.80	140.00	163.90	152.20	212.20	333.90	232.00	248.20	211.20	212.70	213.80	184.00	183.70	166.40	181.90	166.30	124.00	310.90	5.56	52.23	163.90
14	139.10	95.40	161.50	196.00	60.83	46.45	91.20	135.20	134.20	197.30	218.90	188.70	181.50	192.80	193.00	181.20	175.00	181.70	182.00	175.30	170.30	175.60	176.60	175.60
15	178.40	182.10	179.40	185.90	185.20	182.30	180.20	182.50	267.40	348.00	196.20	175.50	301.50	308.70	329.80	266.70	243.80	227.90	249.70	227.70	244.90	327.80	310.90	311.20
16	331.60	218.70	202.90	183.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	220.80	219.00	219.80	224.40	227.90	273.00	319.30	252.30	319.00	348.40	21.33	68.27	29.01
17	24.76	1.30	22.39	19.64	78.60	46.44	37.22	55.22	145.40	203.70	222.50	302.00	207.70	209.70	216.90	205.10	180.00	236.30	86.50	50.83	105.20	9.78	61.46	54.78
18	69.32	91.60	52.41	54.44	53.03	85.40	51.09	48.13	30.12	34.97	300.50	42.58	195.80	198.90	215.10	199.70	208.50	202.30	330.20	48.70	53.51	60.63	61.99	49.48
19	44.79	46.76	49.00	49.45	51.25	47.22	51.20	48.12	49.38	71.00	13.79	271.80	275.70	211.90	197.30	202.80	223.20	224.70	223.70	256.00	50.55	51.91	50.58	49.69
20	51.01	51.39	50.06	49.69	50.10	50.63	51.16	51.95	51.96	58.63	52.80	252.70	234.40	220.60	224.40	239.60	238.80	214.20	224.40	208.50	50.68	50.61	50.95	50.19
21	49.80	51.39	49.99	50.24	49.64	49.22	49.64	49.96	49.46	50.09	63.88	224.30	199.10	218.30	218.70	210.90	206.60	220.50	218.00	230.30	48.82	51.60	52.50	52.74
22	51.14	50.35	50.68	49.68	49.27	49.07	50.40	48.01	47.74	41.81	34.78	324.00	321.40	301.90	246.30	232.30	238.50	245.50	216.90	210.20	52.21	48.67	48.92	49.13
23	48.98	49.24	49.47	50.56	49.22	49.22	49.04	49.53	49.04	48.82	55.81	239.90	240.90	208.40	238.00	222.90	220.40	221.00	221.50	181.30	49.68	49.13	49.95	49.68
24	49.07	50.21	49.94	50.70	50.73	48.93	50.20	50.41	51.21	49.95	58.06	202.10	238.70	230.40	241.00	235.80	208.70	218.50	209.80	199.90	48.42	48.42	48.34	49.11
25	48.33	51.61	50.09	49.76	49.61	48.35	63.01	50.30	48.92	48.02	74.40	210.80	215.00	239.20	224.80	209.30	220.00	209.20	209.40	185.80	49.46	48.71	51.07	51.59
26	51.29	50.34	51.14	50.33	51.36	50.10	50.82	50.09	51.32	54.38	58.22	204.40	216.80	204.00	207.30	209.70	226.40	220.60	228.40	200.50	50.32	50.07	51.52	50.61
27	49.23	49.64	47.96	51.01	50.80	52.49	47.76	47.44	46.63	51.64	47.18	145.60	256.50	236.30	220.50	206.40	227.80	249.10	43.67	40.88	46.42	50.50	49.85	49.69
28	49.83	55.29	48.54	45.84	43.86	43.12	37.02	52.06	51.96	38.88	41.86	269.90	228.60	207.00	211.00	216.00	214.40	218.80	273.80	320.40	358.80	2.94	23.15	43.65
29	40.37	46.50	47.94	44.29	45.60	48.05	47.24	49.43	48.06	49.58	185.70	203.80	228.50	238.40	253.70	271.00	224.80	210.40	290.00	346.90	48.16	47.77	43.11	44.42
30	47.27	47.74	48.67	46.90	45.96	45.85	42.18	46.33	41.36	44.73	353.40	270.70	184.10	105.10	288.00	274.50	278.90	295.80	300.90	329.30	351.80	29.06	55.91	50.28
31	47.86	51.03	60.49	49.99	51.79	47.86	50.09	49.67	49.40	84.70	43.69	201.70	198.70	203.40	223.50	215.30	210.90	209.90	215.40	241.60	51.11	49.06	59.77	47.88

Values in Degrees

TABLE 3 - MONTHLY TEMPERATURE DATA

OCTOBER 1994

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
1	46.17	46.34	46.27	46.10	44.76	45.81	44.11	42.48	42.97	43.94	45.76	48.93	50.22	51.97	53.36	54.63	53.91	53.59	52.97	53.45	53.14	50.33	48.72	47.16
2	46.81	46.07	45.63	45.02	44.74	46.04	47.34	47.39	46.90	46.51	48.15	51.48	53.20	53.45	54.09	56.25	58.13	58.03	58.46	57.57	56.00	56.05	57.43	57.91
3	58.08	57.38	54.07	52.00	50.94	50.85	51.54	52.46	54.79	48.65	47.77	47.71	48.70	49.45	46.97	45.75	41.40	42.68	44.98	45.91	46.69	48.03	47.49	47.84
4	45.70	45.80	45.92	46.37	47.62	45.21	44.45	47.85	46.45	47.52	49.15	49.89	51.76	53.19	54.55	56.31	56.17	58.12	59.47	57.28	55.15	54.41	61.63	57.12
5	54.54	58.31	56.13	55.59	58.75	59.67	56.98	54.87	56.76	54.77	53.93	55.21	55.36	56.14	56.88	57.13	56.74	48.29	45.51	44.45	45.28	44.73	44.78	45.01
6	45.24	44.17	43.96	43.65	43.17	42.69	43.34	43.48	42.46	43.05	45.77	46.67	47.13	48.50	49.36	50.06	50.63	50.67	50.23	48.93	46.52	45.59	43.93	42.65
7	44.76	46.27	47.02	46.97	47.02	46.73	46.43	45.36	45.65	46.85	47.54	49.35	51.22	52.44	52.26	54.04	56.29	56.64	56.37	55.81	53.38	51.00	48.76	48.03
8	46.77	46.62	46.96	47.61	46.95	48.32	47.18	46.74	45.41	46.37	49.04	49.92	52.52	53.78	56.36	57.34	59.19	60.10	60.72	59.55	55.02	51.79	50.01	49.46
9	49.21	49.20	47.96	46.91	47.13	46.65	46.88	47.13	46.95	48.70	52.19	54.06	55.44	58.02	59.69	61.37	62.56	62.67	63.20	61.50	56.20	52.94	51.82	51.53
10	51.16	50.74	50.77	50.29	50.00	50.17	49.60	48.50	48.23	49.53	53.63	56.46	58.50	60.55	61.81	62.47	63.71	64.37	64.41	62.88	57.80	54.32	52.85	52.68
11	52.32	52.19	52.45	53.05	52.70	51.39	50.68	49.18	48.55	49.61	53.94	55.75	57.71	59.78	61.30	62.32	62.67	63.13	63.13	61.99	61.69	60.89	57.14	56.15
12	53.58	51.37	50.17	50.56	49.89	49.18	48.57	48.56	48.74	50.17	53.93	54.89	56.69	59.26	60.88	61.96	62.41	62.22	61.98	60.79	57.28	55.77	59.26	56.83
13	54.09	54.42	55.56	57.38	58.55	57.03	57.93	56.46	53.92	54.49	54.13	56.46	59.11	61.30	62.99	62.88	64.65	64.73	63.44	61.83	58.95	58.34	58.38	61.08
14	55.26	52.54	51.29	46.97	49.92	50.18	51.05	51.80	52.28	53.09	52.96	54.51	55.47	55.44	56.15	54.05	52.40	51.62	51.59	50.08	48.98	49.42	48.85	48.50
15	47.52	45.87	45.20	43.85	41.44	41.02	39.67	39.83	36.80	34.87	34.86	35.24	35.64	35.55	37.21	37.15	38.81	39.02	39.21	38.98	38.51	38.26	38.25	38.09
16	38.35	38.65	37.31	34.88	34.16	33.17	32.83	33.36	33.67	34.22	35.27	35.67	36.46	36.91	39.26	40.54	39.98	41.41	39.78	39.01	38.94	39.08	39.51	39.04
17	38.21	38.34	39.10	38.78	38.20	38.15	38.04	37.54	36.20	35.81	36.42	38.50	39.37	38.71	39.43	40.90	42.49	45.53	44.79	43.88	43.72	43.01	42.87	43.33
18	44.29	43.80	43.63	44.59	44.67	44.47	43.09	44.08	43.31	44.12	44.14	46.23	49.25	50.02	49.32	49.03	48.08	47.00	47.63	46.45	46.03	45.58	45.03	45.54
19	45.00	45.41	44.88	44.58	44.14	44.22	43.89	43.71	43.88	44.64	45.60	47.34	50.05	51.28	52.29	53.34	54.09	55.31	55.65	52.91	48.21	46.87	46.08	45.37
20	45.71	45.67	44.92	45.12	44.97	45.11	45.42	45.86	45.27	45.80	47.48	52.53	53.65	55.39	56.13	57.41	58.10	59.24	58.18	56.65	51.46	49.38	48.77	48.39
21	48.09	47.78	47.39	47.31	46.81	46.43	46.08	46.38	46.42	46.92	50.54	53.21	53.83	55.49	57.50	59.01	59.88	60.53	60.70	58.16	54.09	52.75	52.21	51.71
22	51.14	50.92	50.87	49.55	48.93	48.36	48.47	47.82	48.49	50.59	54.33	57.70	58.63	59.91	60.85	61.76	62.85	63.50	63.28	61.26	56.26	52.88	51.71	50.58
23	49.90	49.36	49.13	48.95	48.56	48.33	48.15	48.11	47.91	48.21	52.04	55.63	56.73	58.77	61.13	62.88	64.41	64.10	64.33	60.64	55.64	53.84	52.69	52.33
24	51.75	51.11	50.79	50.46	50.24	49.99	49.75	50.16	49.61	50.45	53.27	56.95	58.90	59.55	61.24	61.24	60.73	60.80	59.61	55.95	53.10	51.76	50.64	50.66
25	50.85	50.56	50.89	51.33	51.63	50.76	50.86	49.87	48.32	48.71	52.29	55.05	56.28	58.91	60.18	61.46	61.82	62.31	61.72	58.98	53.69	51.19	50.38	49.79
26	49.63	48.79	48.80	48.35	48.62	48.37	48.02	47.87	47.33	48.30	51.21	54.75	56.15	56.75	58.35	59.64	59.97	60.85	60.43	57.39	54.51	53.54	53.25	52.57
27	52.09	51.48	51.38	50.98	50.49	50.43	49.42	48.97	49.15	49.37	51.13	53.81	55.92	55.89	57.00	58.51	57.54	55.88	55.99	55.93	53.89	53.85	52.99	52.17
28	52.14	51.62	50.18	49.38	48.70	48.26	48.20	47.62	47.03	48.18	51.02	54.90	55.69	57.01	59.42	61.99	63.73	64.96	63.26	60.69	59.13	58.66	57.17	54.69
29	52.45	50.81	48.49	48.90	47.76	47.19	46.52	46.95	47.55	48.55	50.62	51.68	53.83	56.80	57.62	58.18	59.29	59.25	57.97	55.86	52.59	50.30	49.30	49.23
30	47.70	46.75	45.74	45.26	45.00	44.52	43.14	41.63	41.31	40.84	42.40	45.10	47.76	49.71	49.68	49.38	49.73	49.16	47.96	44.27	41.54	39.84	38.91	37.97
31	36.58	36.22	36.09	35.69	36.04	36.12	35.89	35.46	35.79	36.43	38.83	41.13	43.97	45.79	46.57	47.61	50.49	49.29	48.31	46.53	45.44	43.92	43.41	42.62

Values in Degrees Farenheit

TABLE 4 - MONTHLY SIGMA THETA

OCTOBER 1994

HOUR

DAY	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
1	3.97	3.42	3.40	45.09	9.69	24.98	37.82	4.42	3.25	3.77	4.20	37.03	31.48	35.99	23.74	33.97	14.85	37.21	6.81	4.95	43.20	14.93	7.76	5.69
2	4.77	4.13	4.28	4.33	2.99	5.69	10.43	5.20	4.50	13.17	28.86	28.78	23.03	19.74	22.94	18.79	17.89	18.23	11.15	6.58	21.59	30.63	25.14	14.35
3	17.45	35.98	56.91	37.87	9.77	5.15	29.51	25.57	47.99	28.85	21.94	24.74	8.55	18.03	38.04	22.08	47.88	29.99	28.17	4.70	28.00	12.98	40.84	7.84
4	46.49	59.97	9.71	28.13	9.36	24.73	35.91	38.24	28.16	54.37	43.98	37.98	26.57	34.66	41.82	15.77	27.80	33.80	39.80	13.29	6.14	7.49	20.64	42.73
5	44.31	31.56	34.38	66.07	18.26	12.32	20.53	32.12	17.32	24.29	41.05	13.88	8.36	9.50	10.63	11.73	10.01	17.83	20.45	21.35	15.04	41.06	20.89	6.98
6	10.51	35.26	19.56	27.61	10.60	16.70	15.61	20.40	25.29	10.66	38.53	35.05	25.17	27.36	28.57	13.40	13.86	12.63	11.83	10.54	9.20	25.79	13.58	3.61
7	3.77	15.58	4.04	6.75	7.72	4.39	10.01	31.20	12.88	24.07	28.52	26.49	26.30	44.46	18.45	56.50	44.02	35.23	30.66	16.00	10.92	3.69	3.48	2.96
8	2.90	3.10	2.93	3.59	4.92	7.02	5.22	4.73	3.77	7.86	29.96	19.49	45.52	29.83	42.04	36.96	47.24	32.74	24.46	13.77	40.79	3.65	3.26	3.09
9	3.22	3.34	4.83	3.80	3.91	3.80	2.83	3.03	2.71	5.40	41.76	22.55	19.55	28.46	23.42	32.64	28.83	21.69	24.83	11.36	25.66	3.22	3.05	2.75
10	2.89	3.43	3.33	3.64	3.56	3.74	4.04	3.88	3.76	3.57	30.31	19.68	28.73	23.69	18.42	17.33	19.40	14.14	10.91	21.03	37.52	3.66	3.68	3.70
11	4.07	4.06	4.50	6.04	6.45	4.16	4.20	3.99	3.97	4.37	43.86	48.56	28.01	22.11	18.39	13.86	11.00	9.91	11.58	11.37	20.02	17.08	38.29	9.82
12	2.63	3.81	3.16	2.76	2.87	2.65	3.40	2.73	3.33	3.88	34.32	21.09	24.69	17.36	13.95	14.68	12.68	12.79	14.77	10.15	31.01	14.38	25.18	21.39
13	10.93	9.12	11.99	30.12	33.88	30.94	42.78	42.66	40.63	43.02	33.68	26.30	34.50	23.81	19.35	18.68	18.36	13.24	20.03	27.18	20.03	14.04	21.59	15.14
14	18.84	17.12	17.72	36.22	28.00	6.24	28.17	21.42	12.02	25.10	27.78	16.52	10.76	10.50	10.26	11.47	11.70	10.69	11.68	10.92	19.09	13.80	11.64	10.77
15	9.65	8.50	7.44	8.27	9.01	8.87	8.74	11.88	27.09	28.98	57.74	24.97	26.19	30.52	15.21	22.06	32.10	24.85	13.91	8.59	14.14	12.27	12.92	11.13
16	19.82	9.54	7.66	4.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.89	14.13	11.20	14.79	14.10	18.21	15.03	17.57	15.40	8.61	26.70	18.52	5.66
17	6.78	10.25	22.79	14.04	28.05	12.37	11.27	8.86	15.95	7.79	7.33	8.95	26.93	11.11	21.27	14.17	18.92	46.45	35.06	6.06	20.79	21.89	15.23	6.47
18	10.82	38.52	5.60	8.45	5.39	26.89	55.11	11.12	10.56	12.68	26.56	52.83	50.60	29.36	18.79	12.51	13.07	12.03	23.51	10.08	19.32	10.77	12.42	9.98
19	7.14	7.43	5.05	3.71	4.26	5.25	2.87	5.18	3.80	44.79	32.79	18.66	27.41	36.46	25.51	15.96	23.58	21.43	18.33	33.04	3.89	3.97	2.98	3.26
20	4.64	5.41	3.46	3.45	3.30	2.99	2.82	3.02	3.24	12.37	5.80	30.18	30.35	29.24	21.75	43.98	18.82	26.93	15.13	42.16	5.34	3.44	3.52	3.51
21	2.95	3.41	3.41	3.57	3.92	3.85	3.77	3.81	3.55	3.91	47.84	27.97	18.49	20.62	21.50	21.75	13.85	13.24	12.56	28.61	4.60	4.88	6.41	5.70
22	4.28	4.50	5.27	3.70	3.87	3.85	4.47	5.22	4.25	5.95	13.19	26.80	20.55	33.49	25.83	34.21	41.41	35.97	22.38	22.60	17.59	3.70	4.89	3.98
23	4.49	3.56	3.45	3.90	3.86	3.77	3.82	3.78	3.90	3.77	12.68	20.63	21.49	21.72	27.70	33.98	22.38	20.11	14.42	28.71	3.58	3.82	3.27	2.87
24	2.93	3.56	3.60	3.06	3.03	4.29	3.11	2.94	3.47	4.78	29.36	23.42	27.11	32.44	24.99	20.60	17.07	18.03	11.24	8.90	3.38	3.56	3.32	3.73
25	3.97	4.26	3.77	2.80	2.65	3.45	13.23	3.75	3.34	3.44	19.31	23.63	22.77	29.88	28.00	26.55	22.60	23.28	13.63	30.17	4.39	3.16	2.75	2.58
26	3.33	3.22	3.17	2.88	3.03	2.98	3.02	3.38	3.23	6.62	16.59	26.57	21.59	17.41	20.86	25.53	19.54	21.81	18.25	39.33	3.84	3.83	4.49	3.49
27	4.44	3.79	4.17	5.11	5.22	5.71	4.49	3.64	4.19	5.14	6.23	20.91	22.45	28.32	27.11	20.66	16.12	22.21	27.99	7.96	4.24	4.41	4.63	3.42
28	3.85	9.33	4.64	5.41	5.71	7.18	7.83	15.66	11.81	9.87	18.71	36.01	23.44	20.37	20.24	25.09	24.65	29.52	21.55	13.74	9.86	7.78	9.76	7.85
29	8.28	6.61	3.89	5.97	3.88	2.96	3.41	3.20	3.81	3.72	21.01	24.81	25.27	42.63	23.93	34.50	33.65	26.83	21.30	13.40	6.81	4.97	3.31	3.67
30	4.21	3.25	4.27	4.40	3.38	3.53	5.04	7.55	3.88	4.12	44.64	21.89	36.15	43.83	16.18	10.20	11.56	13.60	10.70	13.26	11.37	11.44	13.76	9.35
31	4.86	4.47	7.62	4.30	4.76	4.31	2.97	3.02	3.42	27.53	46.40	16.01	24.86	23.59	19.02	21.80	35.74	18.19	15.53	10.06	4.21	3.72	13.10	5.44

Values In Degrees

TABLE 5 - MONTHLY WIND SPEED DATA

NOVEMBER 1994

HOUR

DAY	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
1	16.76	19.59	15.42	9.59	11.48	12.52	12.82	13.49	11.05	9.09	4.57	3.27	3.80	4.39	10.44	1.57	3.23	2.83	3.37	3.91	3.10	2.30	5.58	8.01
2	10.66	5.18	3.66	4.54	9.03	8.60	7.05	11.43	10.08	8.60	7.08	5.33	2.74	6.48	15.62	6.89	4.53	5.69	5.47	5.11	7.32	5.64	5.06	4.71
3	7.68	0.57	0.00	2.47	0.00	0.00	0.00	0.00	0.00	1.03	3.59	4.37	2.93	4.75	2.90	5.57	10.81	13.32	19.26	22.13	19.31	19.49	18.84	16.99
4	18.10	15.59	15.14	14.96	13.10	17.87	16.59	17.41	17.84	10.41	4.36	6.36	7.91	7.96	6.93	6.04	5.73	4.27	4.42	2.86	9.84	14.84	14.19	13.93
5	12.86	11.28	11.49	7.12	8.14	7.76	4.75	1.96	1.54	2.10	3.32	4.18	3.38	5.07	4.82	9.17	10.20	8.36	3.50	12.73	14.63	17.17	18.02	15.73
6	14.91	14.94	12.77	8.66	11.06	9.78	11.58	9.92	8.57	3.42	2.38	3.90	3.93	6.73	7.40	2.67	3.25	1.42	8.47	13.58	11.16	9.00	8.06	6.93
7	8.60	7.13	9.28	5.71	4.94	2.56	8.46	7.69	9.80	5.23	2.88	6.58	11.00	14.32	14.97	14.98	13.93	8.87	2.05	5.95	8.75	9.94	10.50	7.10
8	8.36	5.26	15.30	18.28	7.95	7.20	6.51	7.39	12.07	17.43	5.62	10.52	12.71	19.26	17.47	16.31	19.31	15.87	12.97	9.56	14.97	15.92	21.01	19.11
9	18.73	21.48	23.64	17.81	17.09	18.41	15.39	14.56	13.38	8.51	4.15	5.98	8.76	17.10	17.60	19.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Values in MPH

TABLE 6 - MONTHLY WIND DIRECTION DATA

NOVEMBER 1994

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
1	47.30	47.84	55.72	63.70	42.82	44.15	52.85	50.98	49.07	58.38	79.10	251.00	265.70	254.30	356.30	0.42	258.20	306.70	34.38	3.77	321.20	291.60	48.42	113.80
2	164.60	201.00	200.20	208.00	200.10	202.90	200.20	198.90	201.90	209.30	217.80	301.80	226.80	327.10	313.60	1.70	1.64	45.04	55.28	106.60	87.00	16.48	92.20	165.20
3	174.50	200.30	0.00	61.08	0.00	0.00	0.00	0.00	0.00	159.20	204.10	193.90	170.40	200.10	284.90	225.80	39.92	28.81	45.60	46.71	49.15	50.84	44.58	42.38
4	44.71	44.81	49.76	45.76	46.62	50.20	49.00	45.57	49.00	58.74	198.40	202.20	213.90	228.80	245.70	225.30	210.00	218.30	178.70	71.00	46.43	52.34	52.71	52.64
5	53.18	51.98	52.99	51.99	48.95	52.31	73.80	232.70	200.90	250.60	249.20	331.50	245.50	218.40	335.90	215.00	222.40	219.20	232.50	52.36	50.93	51.63	50.80	54.25
6	53.58	53.63	53.57	56.28	60.75	61.48	56.28	64.83	62.89	86.30	274.60	274.30	257.10	227.30	205.80	241.60	263.60	271.70	39.75	50.20	55.59	53.24	51.11	49.91
7	51.82	67.11	73.80	48.56	42.42	59.97	54.09	48.83	54.38	91.80	234.90	220.90	210.70	201.60	200.10	199.60	205.60	227.20	339.40	49.40	65.75	140.60	163.60	166.50
8	161.00	107.60	52.18	57.93	101.80	51.53	51.80	159.10	58.96	45.45	7.50	290.20	264.10	277.70	299.70	304.20	301.70	310.50	334.40	34.68	46.52	49.84	49.95	51.73
9	50.72	49.46	50.96	51.09	50.67	49.56	52.00	53.30	56.02	59.59	246.30	223.70	208.00	207.20	207.20	209.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Values In Degrees

TABLE 7 - MONTHLY TEMPERATURE DATA

NOVEMBER 1994

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
1	42.39	42.23	42.36	42.19	41.38	40.95	41.11	39.95	39.64	39.61	40.66	42.39	43.88	44.22	52.42	54.94	48.14	46.80	47.25	46.96	47.37	46.86	47.25	49.62
2	51.13	49.45	49.18	48.38	48.64	48.49	48.21	48.25	47.42	46.37	46.04	44.60	45.71	45.23	40.87	35.41	34.19	34.48	35.62	36.77	38.60	37.94	38.21	37.43
3	34.63	31.66	31.55	32.77	32.21	31.61	31.04	30.15	31.12	33.55	32.99	32.69	34.43	35.80	38.89	38.88	36.89	36.87	33.87	32.11	32.08	31.60	31.06	30.53
4	30.10	29.54	29.59	27.87	27.36	26.96	26.29	26.09	25.20	26.98	31.16	32.10	33.56	35.12	36.74	37.86	37.99	37.35	35.91	34.39	33.64	33.45	32.95	33.12
5	33.53	33.58	33.93	34.11	34.35	34.76	35.05	34.72	33.96	34.59	35.14	37.30	38.75	39.50	42.86	44.27	44.11	44.08	42.02	40.00	40.28	39.77	39.77	40.40
6	40.31	40.11	40.28	40.34	40.55	40.89	41.08	40.34	40.95	44.12	45.41	45.65	47.08	47.90	48.19	48.59	48.03	47.08	47.18	47.96	48.36	48.22	48.05	47.95
7	48.37	48.30	47.52	46.99	45.44	44.60	45.43	45.65	45.95	47.55	49.82	50.02	50.48	51.75	53.59	54.24	54.66	52.84	51.40	50.43	49.90	52.77	53.10	52.26
8	51.84	49.06	46.15	45.14	48.13	46.33	46.44	44.95	41.95	42.17	47.35	46.75	47.91	47.08	47.00	47.09	46.25	44.70	42.21	40.93	38.84	38.15	36.77	36.49
9	35.49	35.14	35.06	35.43	34.58	34.28	34.81	34.78	35.44	36.54	39.01	38.61	40.07	41.51	40.46	37.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Values in Degrees Farenheit

TABLE 8 - MONTHLY SIGMA THETA

NOVEMBER 1994

HOUR

DAY	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
1	3.66	3.87	18.99	23.21	7.99	6.87	8.18	5.58	11.11	12.71	28.05	23.44	23.90	19.17	62.13	59.16	28.91	37.01	35.56	40.20	22.06	26.41	16.98	33.82
2	19.51	26.31	42.29	44.03	22.26	31.76	22.67	13.70	18.00	20.70	24.60	19.55	43.18	22.62	15.19	24.98	10.91	18.01	37.13	16.42	23.49	36.69	15.02	38.79
3	20.19	2.13	0.00	10.01	0.00	0.00	0.00	0.00	0.00	25.78	49.52	25.22	30.19	22.98	52.96	27.51	13.15	8.64	5.98	5.50	5.01	4.47	7.19	9.29
4	6.36	5.01	5.41	5.39	7.95	5.56	6.01	6.06	5.85	18.31	22.94	25.75	20.56	23.00	39.09	28.12	25.79	16.44	16.37	26.26	6.67	4.20	6.11	5.58
5	5.89	6.96	6.03	8.36	5.91	9.40	19.83	14.79	24.93	17.03	29.20	37.30	28.62	39.69	51.86	22.68	13.00	17.11	32.35	5.56	5.54	5.17	4.26	4.99
6	5.77	6.49	6.88	9.32	7.66	8.61	6.96	9.88	9.88	27.18	34.99	19.22	27.06	22.05	19.91	37.80	16.03	13.90	9.45	6.21	7.82	9.07	10.44	20.18
7	9.40	16.27	18.66	21.30	23.63	23.11	8.81	11.35	8.98	27.45	20.63	19.16	15.53	14.14	12.13	12.89	10.09	9.50	26.77	13.16	12.43	21.66	17.89	15.39
8	13.36	23.89	5.28	18.28	39.24	29.51	21.06	43.44	32.78	7.37	37.94	15.64	16.38	15.60	17.79	20.00	12.08	11.40	8.95	11.01	4.68	4.49	2.93	4.34
9	3.60	2.67	3.71	4.72	4.66	4.26	7.41	6.00	6.27	8.56	36.57	20.86	21.84	10.40	12.34	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Value In Degrees

TABLE 9 - MONTHLY WIND SPEED DATA

DECEMBER 1994

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.33	14.16	14.25	15.82	16.33	15.65	12.26	7.63	5.94
8	5.21	13.27	14.47	10.87	7.73	7.11	8.66	12.89	14.20	13.35	7.89	4.72	6.46	11.51	9.63	8.57	10.63	16.46	7.57	20.40	23.67	24.71	24.30	23.76
9	23.49	20.64	22.13	23.10	23.54	19.33	17.00	17.02	18.34	18.22	9.68	5.30	6.29	6.64	5.65	6.86	6.38	6.60	8.64	16.94	12.01	11.89	18.70	18.75
10	20.24	21.37	19.82	22.10	22.34	15.89	15.44	12.67	13.81	11.95	7.21	6.77	5.20	6.96	7.16	6.84	8.42	5.93	3.92	11.73	12.53	11.13	6.09	3.27
11	5.04	5.46	6.01	2.96	1.96	2.47	6.96	8.70	15.83	11.56	4.49	6.02	6.95	5.42	6.29	7.72	6.39	5.63	6.92	12.14	16.98	19.38	17.65	20.14
12	17.02	17.56	12.77	16.19	22.23	12.48	6.40	7.00	6.57	5.58	4.23	4.58	5.83	4.51	4.08	3.91	2.88	4.14	2.31	3.91	6.24	3.36	4.05	4.28
13	1.95	2.46	3.25	2.62	2.36	2.17	2.56	2.08	2.85	2.68	2.93	5.22	6.54	8.00	3.26	5.60	8.01	7.66	1.86	2.52	1.43	2.14	2.36	2.73
14	2.01	3.04	5.21	10.07	16.06	19.67	22.02	20.79	21.92	21.72	22.36	15.33	5.70	5.44	4.47	8.17	4.52	5.47	14.71	21.19	22.02	20.95	21.42	19.15
15	17.11	11.56	7.12	6.63	4.67	2.58	2.55	3.57	6.00	0.99	2.50	2.69	5.30	5.12	8.37	7.15	6.52	3.31	3.42	14.60	18.74	20.74	21.59	20.89
16	22.61	21.49	19.39	20.96	14.29	16.67	13.45	8.45	7.29	4.18	2.01	2.99	4.27	3.78	5.14	4.51	4.39	3.27	4.81	5.79	7.83	8.31	9.50	11.75
17	11.80	8.53	12.12	5.97	7.45	9.32	10.07	10.83	7.11	5.77	2.38	4.64	3.65	6.22	4.64	5.33	5.44	4.00	3.24	5.68	7.19	9.27	10.86	12.35
18	12.08	14.45	15.68	17.02	16.16	14.03	18.33	16.79	14.60	10.75	3.97	4.05	5.97	5.78	6.01	6.96	6.51	5.65	3.51	6.38	12.03	11.06	10.51	12.19
19	7.83	9.98	12.62	13.20	12.07	12.95	5.22	11.58	21.32	15.51	10.23	2.42	7.77	11.41	10.94	10.04	9.08	4.89	11.94	18.11	16.06	16.70	16.56	18.39
20	20.84	21.27	22.60	20.66	22.16	18.80	5.64	12.20	12.20	12.49	5.59	4.26	5.49	7.51	7.26	6.67	6.35	4.11	2.90	5.91	8.88	13.06	15.91	15.43
21	15.84	14.04	11.08	11.21	14.01	12.64	10.28	10.50	9.94	9.86	4.30	3.24	4.45	5.01	5.67	5.73	5.83	3.07	7.92	11.58	15.33	15.19	15.20	13.18
22	13.50	4.91	3.80	5.17	5.66	15.13	15.09	13.45	7.22	11.27	6.62	5.33	4.86	6.58	5.53	4.59	4.30	4.43	4.63	8.37	10.04	11.96	12.07	11.11
23	6.78	7.45	9.75	5.88	8.53	9.07	10.12	7.97	5.65	3.31	3.69	6.83	7.40	8.74	7.46	7.12	2.78	2.24	5.86	3.78	2.40	3.37	4.18	4.88
24	2.53	0.00	0.00	0.00	2.20	1.85	1.69	2.04	0.00	0.00	1.72	1.85	1.80	3.05	2.25	2.51	4.04	3.81	1.49	2.72	2.32	4.11	3.96	3.95
25	3.59	3.31	5.82	5.76	4.76	3.36	1.14	3.21	1.88	3.35	1.52	2.09	4.02	2.67	2.68	3.64	4.02	4.47	5.56	11.08	9.55	13.02	16.39	16.50
26	20.69	21.81	22.03	21.26	22.55	16.91	16.58	17.45	18.36	14.81	4.58	3.45	3.35	5.06	3.74	6.72	5.82	4.97	2.79	6.67	8.90	15.33	16.47	17.42
27	20.13	17.96	17.10	18.99	20.20	22.46	8.04	4.57	2.17	1.30	3.40	4.94	5.77	4.82	5.84	5.73	4.66	3.55	3.64	4.85	10.08	8.76	8.90	5.30
28	3.53	3.12	4.88	3.01	2.03	2.29	2.34	1.51	2.43	3.45	2.21	3.43	2.72	3.68	2.11	2.04	2.62	4.54	4.37	2.91	3.68	3.42	4.02	1.96
29	1.97	2.06	2.72	2.37	3.98	3.64	3.26	1.53	2.60	2.00	1.70	1.96	0.79	4.38	3.35	6.38	3.83	2.39	4.98	1.22	9.69	18.52	9.56	4.49
30	2.99	9.02	5.11	2.58	2.34	11.01	7.07	14.03	17.29	17.03	13.85	5.05	7.32	6.05	6.74	6.26	9.67	8.14	5.58	13.06	19.97	20.04	21.46	21.71
31	19.40	15.97	12.92	6.51	8.96	11.43	12.03	16.89	14.37	15.13	12.24	17.70	13.20	15.98	14.69	17.62	17.78	18.49	16.13	10.12	12.40	9.95	9.83	14.59

Values in MPH

TABLE 10 - MONTHLY WIND DIRECTION DATA

DECEMBER 1994

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	136.10	299.00	344.90	347.20	344.50	351.90	343.80	20.33	7.77
8	43.62	52.44	47.94	45.87	33.05	59.36	68.52	57.28	46.73	55.27	53.35	176.30	271.70	339.80	329.90	22.21	346.50	282.50	25.00	51.38	51.49	50.80	52.10	51.25
9	51.60	55.76	51.25	51.15	51.90	52.95	50.93	51.46	51.45	50.58	60.39	227.40	245.10	239.50	265.70	249.80	235.40	206.70	35.91	50.77	54.55	55.10	49.74	49.70
10	50.36	50.55	51.57	51.08	52.19	56.23	69.81	56.52	54.01	53.17	83.60	228.70	241.20	213.30	223.80	241.60	233.70	202.70	111.30	51.28	52.78	55.09	89.00	17.13
11	360.00	41.46	72.50	325.30	349.80	51.10	51.59	53.95	48.76	54.54	65.98	226.90	225.10	208.20	212.90	220.90	228.30	214.00	69.69	42.45	41.72	44.20	47.74	47.87
12	49.15	55.32	52.88	46.26	49.22	52.32	61.55	79.90	61.84	25.65	20.17	251.00	243.30	253.40	264.90	217.90	199.20	209.60	216.50	343.00	43.99	196.80	21.06	62.30
13	116.70	276.10	350.70	21.92	274.50	283.80	209.20	162.60	134.50	48.53	279.40	121.90	210.50	233.30	334.00	217.70	220.50	249.60	346.10	51.75	344.90	196.40	293.20	337.30
14	299.40	52.86	16.41	45.10	45.53	42.96	44.74	43.37	43.15	49.56	47.47	45.62	50.24	275.80	291.90	198.70	220.90	223.70	53.54	49.92	49.93	49.35	49.40	50.58
15	50.32	53.79	53.41	50.74	48.69	157.00	42.91	48.92	37.85	17.25	248.80	241.00	217.90	194.00	209.30	226.60	254.20	278.70	142.50	52.31	48.85	49.40	49.60	49.70
16	49.43	49.63	49.44	49.21	59.41	45.58	49.76	44.58	42.63	52.46	241.90	263.00	250.00	265.90	261.50	270.10	261.90	302.80	19.07	18.69	36.39	35.01	49.79	49.82
17	50.13	55.06	47.28	57.87	59.97	46.40	46.26	49.18	63.48	50.85	53.85	242.90	248.60	236.70	254.30	239.00	242.20	250.00	46.69	66.68	27.92	33.59	39.98	38.56
18	42.95	43.41	49.95	44.76	46.67	51.21	48.79	49.65	44.89	59.07	76.90	228.90	218.90	222.50	230.10	238.60	216.40	223.20	230.00	46.49	51.48	41.40	40.76	55.05
19	68.87	55.49	29.83	15.47	14.22	4.25	146.40	35.15	35.11	42.77	51.99	24.43	257.70	305.50	284.90	281.20	299.00	294.30	49.32	51.54	54.26	52.08	53.00	51.57
20	48.33	47.03	47.87	45.02	49.49	55.26	61.29	48.63	35.90	41.43	112.20	221.80	221.40	226.20	201.40	223.00	242.90	246.20	57.87	58.51	60.92	53.91	51.89	51.36
21	48.48	49.00	49.26	46.91	47.18	48.81	37.11	44.04	41.91	40.78	71.60	241.40	251.40	245.80	230.60	250.80	252.50	257.80	41.15	41.25	41.24	38.42	45.51	48.59
22	53.01	109.40	163.10	119.90	22.30	37.63	44.70	36.12	73.30	86.20	26.32	197.50	72.60	213.50	238.30	258.90	242.10	32.56	48.68	44.81	49.15	47.29	43.91	39.44
23	70.10	79.10	54.79	83.30	43.40	40.66	48.42	40.53	22.96	33.90	216.40	184.90	147.20	165.60	136.90	189.50	208.00	351.00	163.30	297.00	272.20	348.20	356.90	327.80
24	245.50	0.00	0.00	0.00	44.55	30.91	46.74	303.30	0.00	0.00	271.70	275.30	265.50	311.70	1.73	180.10	192.60	186.60	198.70	8.62	321.30	340.70	348.40	338.00
25	309.60	344.50	6.22	53.77	32.89	259.20	203.90	57.86	64.45	228.30	232.40	49.36	241.70	273.20	302.90	287.40	71.40	26.77	19.90	44.73	53.70	45.39	49.44	45.85
26	47.86	48.73	49.59	49.51	46.54	45.66	44.13	44.55	48.60	62.22	102.80	244.30	257.80	262.30	245.60	237.70	213.70	229.00	317.70	57.57	76.80	48.97	49.57	45.83
27	48.34	49.44	53.20	51.13	47.08	50.97	79.40	110.30	139.40	173.20	173.60	245.10	235.80	238.60	241.30	236.30	253.70	262.60	349.70	20.84	37.57	40.53	41.56	125.10
28	86.40	87.60	98.60	178.70	61.56	264.60	349.70	336.20	45.72	177.60	212.40	222.50	180.00	317.30	279.90	263.00	238.10	236.10	226.80	239.40	265.30	309.60	296.10	283.90
29	278.60	315.00	10.94	325.60	354.60	28.13	211.10	340.60	3.21	12.28	205.20	256.00	322.90	234.20	275.40	201.10	227.90	324.50	309.20	267.70	45.91	50.07	50.88	128.00
30	127.10	38.08	172.20	156.30	105.30	38.09	82.40	47.56	48.96	47.53	55.06	211.40	202.30	184.40	224.90	239.70	274.30	269.60	124.10	57.33	51.37	47.13	51.01	49.40
31	48.07	36.14	359.50	331.90	5.11	19.32	10.69	45.12	43.00	42.12	24.98	324.80	290.70	293.80	296.40	296.30	302.40	307.30	326.60	6.60	42.05	49.22	70.40	54.54

Values in Degrees

TABLE 11 - MONTHLY TEMPERATURE DATA

DECEMBER 1994

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.85	38.60	36.95	34.20	31.87	30.12	28.70	28.42	26.98
8	25.79	23.79	23.08	23.63	23.59	21.55	20.84	20.10	21.29	22.20	24.75	29.17	29.69	29.92	30.84	31.53	30.85	28.02	25.08	21.52	19.72	18.75	18.28	18.02
9	18.21	18.34	18.15	17.80	17.32	18.21	17.91	18.30	17.70	17.29	20.77	24.01	25.07	26.54	28.65	29.77	30.75	29.36	25.58	23.17	23.78	22.86	21.46	20.86
10	20.74	19.62	19.02	18.49	18.48	19.04	18.82	18.12	17.58	18.98	22.37	24.02	25.78	27.77	29.08	29.91	28.74	26.57	25.39	24.71	24.53	24.20	24.17	22.77
11	22.23	24.99	24.59	24.58	23.97	25.30	25.12	24.56	23.45	23.42	27.26	29.86	30.00	33.44	34.50	35.69	36.18	34.48	30.67	28.57	27.07	26.49	26.64	26.34
12	26.34	26.01	26.04	26.02	26.37	25.96	27.07	27.64	26.65	27.39	29.26	31.70	31.74	33.32	32.06	32.26	33.32	32.28	30.30	29.22	29.75	32.09	30.61	30.21
13	30.58	30.17	29.47	30.39	30.79	30.45	30.08	29.43	28.54	29.21	29.58	30.31	30.95	29.36	30.42	31.53	32.43	31.09	30.49	30.94	30.56	30.09	29.83	30.03
14	30.15	30.13	29.90	28.44	26.80	25.28	25.38	25.75	24.72	23.87	25.04	28.97	34.63	35.72	36.78	35.94	36.46	32.04	27.70	25.54	24.93	25.23	25.78	26.63
15	28.12	29.10	28.88	29.02	29.43	29.12	26.99	26.03	26.84	27.68	29.93	32.31	32.17	34.59	33.79	35.22	35.69	35.70	31.41	29.60	27.89	26.54	25.75	26.12
16	25.51	25.29	25.73	25.72	26.42	25.57	26.31	27.19	27.29	27.89	30.31	31.41	32.60	34.54	36.06	35.64	35.65	35.70	32.39	31.95	32.14	31.99	31.79	31.20
17	31.77	32.01	31.83	32.20	31.98	32.17	31.82	31.20	31.61	32.20	36.22	37.29	38.48	39.86	41.63	43.06	42.48	40.96	36.79	36.65	37.23	37.33	36.87	36.29
18	36.16	37.10	36.20	35.59	34.62	34.30	35.16	34.42	32.15	33.90	36.65	38.27	38.52	41.17	41.71	41.81	40.62	39.74	36.52	35.53	34.94	34.77	34.82	35.74
19	37.11	36.76	36.95	38.21	38.10	37.44	36.72	35.56	33.75	35.20	36.61	40.98	41.75	42.54	43.20	43.42	43.36	43.68	39.03	36.92	36.06	35.56	34.66	34.09
20	33.56	33.34	33.13	33.74	32.82	32.58	32.99	31.37	31.55	32.13	34.93	37.98	38.61	39.96	41.20	42.79	42.60	41.46	37.35	36.88	37.25	37.39	36.54	36.63
21	37.24	37.61	37.71	37.93	37.37	37.87	35.22	35.38	35.39	36.41	38.33	39.78	40.83	43.08	45.50	46.44	46.63	45.06	41.33	42.73	42.68	41.99	41.87	41.52
22	41.25	38.67	36.08	34.73	34.35	36.11	38.32	38.58	37.70	36.21	41.71	38.04	38.53	45.97	45.82	45.34	43.15	41.49	42.16	43.73	43.30	43.08	43.31	43.01
23	42.36	41.91	41.99	40.11	42.76	43.01	43.60	43.11	44.05	45.26	43.90	43.42	41.08	44.27	42.89	41.50	39.75	38.74	39.78	38.43	37.22	34.81	34.96	35.66
24	34.43	33.94	34.24	34.88	35.97	36.02	36.53	36.42	35.88	36.04	36.21	36.23	36.46	36.63	36.98	37.68	37.53	36.91	37.22	37.37	37.32	36.97	37.31	37.69
25	37.31	37.29	38.24	39.15	39.14	39.22	36.96	38.66	40.34	39.55	40.11	40.98	41.76	40.69	41.66	42.02	42.60	42.68	41.18	41.83	40.81	39.62	39.68	38.70
26	37.51	37.30	36.82	37.44	37.76	38.34	38.77	38.22	37.71	37.81	40.92	42.65	42.10	43.43	46.81	46.99	46.67	44.54	40.47	38.96	38.72	37.75	37.81	36.75
27	36.63	36.59	36.87	36.04	35.23	35.45	34.59	33.73	33.23	33.53	37.17	36.58	36.85	38.13	40.78	41.65	42.74	40.63	37.64	38.22	39.15	39.37	38.45	37.81
28	35.56	35.42	36.11	32.87	30.00	26.84	27.37	28.63	28.62	28.60	29.64	29.70	30.57	30.66	31.47	31.66	31.86	31.63	31.29	31.18	31.15	31.09	31.05	31.15
29	31.26	31.37	31.48	31.48	31.56	31.70	31.61	31.50	31.65	32.07	33.17	34.21	35.72	35.45	35.34	35.50	35.17	35.16	35.05	34.80	35.33	36.10	37.19	35.97
30	33.62	36.93	34.16	33.15	33.13	33.98	34.46	33.38	33.05	32.50	34.04	37.58	37.24	39.37	41.35	42.49	41.80	40.57	36.59	33.63	31.34	30.05	29.20	28.90
31	29.07	30.53	30.81	28.64	27.37	26.32	25.86	22.85	23.49	23.51	26.69	28.37	29.88	30.68	31.00	30.97	30.51	28.87	26.11	23.94	23.16	22.55	22.59	22.54

Values in Degrees Farenheit

TABLE 12 - MONTHLY SIGMA THETA

DECEMBER 1994

DAY	HOUR 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.16	17.14	14.76	10.79	10.35	12.24	14.85	35.67	29.34
8	29.26	4.74	5.53	10.15	28.79	26.07	11.95	7.90	5.16	2.90	13.05	38.20	44.37	23.29	38.57	40.64	21.95	10.52	48.34	3.25	3.13	3.12	3.44	3.11
9	3.76	4.65	2.88	2.46	2.75	3.67	5.41	3.24	3.46	3.19	36.65	24.06	27.53	25.78	36.46	21.00	21.29	11.52	31.93	3.45	6.22	8.14	4.22	3.96
10	2.83	3.15	4.41	3.43	2.56	5.74	35.26	6.25	5.49	4.36	27.07	17.93	50.11	27.82	31.51	24.94	13.91	12.73	25.18	4.62	8.10	9.02	28.63	44.44
11	28.03	15.34	43.36	19.70	31.03	15.42	12.95	11.86	4.80	8.92	26.55	16.46	21.33	35.26	29.85	24.65	27.61	12.18	22.87	6.94	5.81	4.38	5.75	4.33
12	4.94	10.44	9.18	4.59	2.79	11.75	37.71	34.20	14.13	21.10	30.88	38.59	21.51	30.30	43.67	22.16	32.57	10.89	13.38	29.65	16.19	37.84	36.90	36.34
13	46.33	19.55	13.43	39.18	22.92	19.95	39.34	16.33	57.25	39.12	43.66	33.87	43.67	16.40	53.49	44.51	22.33	12.46	32.31	25.74	22.76	13.63	16.31	12.15
14	47.11	38.97	12.33	7.19	6.37	6.98	6.43	7.11	5.77	3.22	2.87	3.62	18.61	32.82	36.07	16.14	27.26	16.79	4.45	2.71	3.08	3.81	4.13	4.23
15	4.42	5.70	10.19	9.94	10.99	29.36	16.06	8.49	29.77	12.45	26.13	27.06	18.90	25.21	17.50	25.06	19.72	25.55	27.17	4.14	4.07	2.64	2.68	2.78
16	3.34	3.33	4.68	3.06	14.96	4.42	8.08	10.81	14.27	16.98	28.69	17.81	31.25	30.75	19.92	18.90	19.39	37.01	21.57	30.44	15.81	11.18	11.68	7.21
17	7.23	9.67	5.03	15.73	9.05	6.17	6.72	14.83	13.41	15.34	8.23	31.64	31.28	21.79	24.92	30.81	25.27	12.54	16.45	17.67	10.91	13.85	11.06	7.52
18	8.35	6.34	5.94	6.15	5.16	9.14	3.63	5.69	6.24	12.36	26.95	23.09	21.23	31.49	27.61	20.01	21.07	16.52	29.03	15.26	5.40	10.48	9.03	7.52
19	23.10	14.32	15.40	14.27	16.33	17.46	50.83	22.61	9.51	9.88	41.23	41.23	37.52	20.40	15.31	16.65	9.77	16.24	19.82	2.90	6.16	7.07	6.88	6.65
20	3.74	4.75	4.00	4.84	3.06	11.59	26.34	26.37	8.46	6.37	33.66	33.26	24.89	21.02	19.49	30.77	19.22	18.09	17.12	16.67	8.75	5.05	3.44	3.75
21	5.04	6.78	11.43	7.23	6.09	7.89	9.57	8.64	11.41	9.48	21.08	18.53	31.73	27.82	23.99	21.03	15.49	40.01	11.05	7.59	6.57	6.80	13.77	23.70
22	24.00	34.42	39.23	44.01	22.44	6.84	15.41	13.78	27.58	21.27	12.75	43.95	42.22	20.31	21.53	23.29	12.18	15.29	30.96	8.27	7.54	6.09	7.37	8.47
23	25.83	19.19	12.00	32.10	10.89	10.12	25.92	12.82	14.58	37.52	51.37	34.13	34.08	27.23	52.89	45.47	45.46	49.86	12.76	29.20	23.59	20.91	13.21	13.02
24	6.66	0.00	0.00	0.00	5.93	22.61	32.83	18.40	0.00	0.00	12.13	12.30	16.24	32.35	20.89	30.89	19.74	16.48	40.36	26.13	17.02	14.38	13.68	16.96
25	21.12	18.37	7.00	40.44	37.73	53.34	7.59	29.18	25.58	18.90	22.39	13.82	16.15	24.03	17.26	9.77	13.35	24.89	14.27	4.41	10.62	7.62	4.31	6.39
26	4.45	4.38	4.14	4.84	5.02	6.33	5.59	4.41	6.32	9.24	48.03	29.50	25.48	25.52	38.11	17.41	19.37	17.74	27.10	18.14	34.05	6.19	5.85	5.35
27	4.42	5.58	4.78	3.60	4.71	3.67	47.35	48.32	45.17	35.43	29.26	17.40	22.84	30.80	29.10	23.22	20.77	16.89	12.09	16.77	9.76	11.48	17.06	30.94
28	37.63	39.54	34.75	11.13	23.13	34.74	20.95	19.09	24.83	20.05	36.16	18.76	27.00	18.98	29.46	14.58	17.68	15.30	6.89	13.89	10.83	13.82	10.75	10.96
29	28.29	14.89	22.58	13.86	27.61	39.77	34.15	30.61	19.73	37.84	22.58	20.64	15.64	27.65	25.67	13.47	14.95	17.78	20.11	31.11	6.96	3.30	22.73	32.46
30	11.55	10.96	14.99	14.83	19.95	10.51	23.10	5.17	5.86	5.12	6.62	29.19	14.07	29.51	21.58	28.15	15.21	12.90	27.36	11.78	3.70	4.98	3.96	4.24
31	5.18	10.32	12.70	24.15	16.49	12.12	10.92	5.77	8.63	10.73	13.84	13.80	16.98	14.74	15.46	14.22	12.15	9.24	10.01	19.14	8.06	13.38	8.55	6.47

Values in Degrees

AIRS DATASTRING
INPUT DATA PARAMETERS

Input Data for Wind Direction

Example of Data Inputs

Hourly	State	County	Site Number	Wind Direction Parameter	POC	Internal Number	Unit Number	Method Number	Date*	Standard* Hour	Decimal Position	Data** Values	Character @ 80th Position
1	49	007	5001	61102	1	1	014	020	941001	00	1	0225	I

Input Data for Wind Speed

Example of Data Inputs

Hourly	State	County	Site Number	Wind Direction Parameter	POC	Internal Number	Unit Number	Method Number	Date*	Standard* Hour	Decimal Position	Data** Values	Character @ 80th Position
1	49	007	5001	61101	1	1	012	020	941001	00	1	0225	I

Input Data for Temperature

Example of Data Inputs

Hourly	State	County	Site Number	Wind Direction Parameter	POC	Internal Number	Unit Number	Method Number	Date*	Standard* Hour	Decimal Position	Data** Values	Character @ 80th Position
1	49	007	5001	62101	1	1	015	020	941001	00	1	0225	I

Input Data for Sigma Theta

Example of Data Inputs

Hourly	State	County	Site Number	Wind Direction Parameter	POC	Internal Number	Unit Number	Method Number	Date*	Standard* Hour	Decimal Position	Data** Values	Character @ 80th Position
1	49	007	5001	61106	1	1	014	020	941001	00	1	0225	I

* Indicates values change and are not set values

** Data values are four characters long with eight value sets total

File N:\GOSSARD\SCWM\QRT0395D.WK3

AIRS DATA STRING
MONTHLY, WIND SPEED, WIND DIRECTION, TEMPERATURE, SIGMA THETA DATA
FOR OCTOBER 1994

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