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: 32869
MSAI Group: 8110
Date Reported: 05/11/95

Discard Date: 06/10/95
Date Submitted: 04/28/95
Date Sampled: 04/27/95
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	0.1
7254	Iron by ICP Method: SW-846 6010A	6.44	mg/l	0.25
7258	Manganese by ICP Method: SW-846 6010A	1.18	mg/l	0.015
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	422	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	19	mg/l	4
0212	Solids, Total Dissolved (TDS) Method: EPA 160.1	5,520	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,780	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	48.2	mg/l	1.0
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,250	mg/l	2

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 Dissolved
Matrix: Waste Water

MSAI Sample: 32872
MSAI Group: 8110
Date Reported: 05/11/95

Discard Date: 06/10/95
Date Submitted: 04/28/95
Date Sampled: 04/27/95
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	0.1
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	460	mg/L	0.8
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.25
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	337	mg/L	0.2
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.12	mg/l	0.02
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	33.1	mg/L	0.8
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	440	mg/l	4

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: CRC
Matrix: Waste Water

MSAI Sample: 30445
MSAI Group: 7492
Date Reported: 03/09/95

Discard Date: 04/08/95
Date Submitted: 03/02/95
Date Sampled: 02/28/95
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.0	mg/l	0.3
7254	Iron by ICP Method: SW-846 6010A	4.19	mg/l	0.10
7258	Manganese by ICP Method: SW-846 6010A	0.78	mg/l	0.02
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	404	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	5,070	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,760	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	35.8	mg/l	1.0
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,220	mg/l	2

A alytical 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 Dissolved
Matrix: Waste Water

MSAI Sample: 30448
MSAI Group: 7492
Date Reported: 03/09/95

Discard Date: 04/08/95
Date Submitted: 03/02/95
Date Sampled: 02/28/95
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	487	mg/L	1.0
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	0.27	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	341	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	0.97	mg/l	0.02
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	33.0	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	447	mg/l	4

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

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

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 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: 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: 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

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	11.6	8.04	5.1	6.5
12/4/94	1420	J.C.	CLEAR 25°±	.20	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	1405	J.C	CLDY 32°±	.22	24	11.2	8.1	5.5	4.4
2-1-95	1315	J.C	CLEAR 40°±	.24	32	11.7	8.3	4.8	4.4
2-6-95	1320	J.C.	CLEAR 40°±	.25	36	11.8	8.1	5.1	4.5
2-23-95	1345	J.C.	PTLY CLDY 40°±	.25	36	11.2	8.0	5.5	4.8
2-28-95	1120	J.C.	PTLY CLDY 45°±	.24	32	11.9	8.3	5.2	5.1
3-1-95	1430	J.C.	PTLY CLDY 45°±	.24	32	11.3	8.0	5.6	4.9
3-9-95	1345	J.C.	PTLY CLDY 40°±	.24	32	11.8	8.1	5.5	5.6
3-22-95	1145	J.C.	PTLY CLDY 50°±	.20	21	12.1	8.5	4.8	5.0
3-30-95	1330	J.C	PTLY CLDY 50°±	.22	24	11.8	8.1	4.9	4.5
4-5-95	1045	J.C.	CLEAR 45°±	.22	26	11.7	8.0	5.4	4.9
4-13-95	1420	J.C.	CLEAR 50°±	.22	26	11.9	8.1	5.2	4.7
4-20-95	1140	J.C.	RAIN 40°±	.23	29	12.1	8.5	4.8	5.0
4-27-95	1120	J.C.	~~[illegible]~~ 30°±	.24	32	13.0	8.6	5.0	4.7

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)~~ mS	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 62°	.27	52	17.80	7.96	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
11/4/95	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

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: 30444
MSAI Group: 7492
Date Reported: 03/09/95

Discard Date: 04/08/95
Date Submitted: 03/02/95
Date Sampled: 02/28/95
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.3	mg/l	0.3
7254	Iron by ICP Method: SW-846 6010A	8.26	mg/l	0.10
7258	Manganese by ICP Method: SW-846 6010A	1.64	mg/l	0.02
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	484	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	12	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	4,950	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,960	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	63.0	mg/l	1.0
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,270	mg/l	2

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: 32868
MSAI Group: 8110
Date Reported: 05/11/95

Discard Date: 06/10/95
Date Submitted: 04/28/95
Date Sampled: 04/27/95
Collected by: JC
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0248A	Boron by ICP Method: SW-846 6010A	1.2	mg/l	0.1
7254	Iron by ICP Method: SW-846 6010A	7.67	mg/l	0.25
7258	Manganese by ICP Method: SW-846 6010A	1.52	mg/l	0.015
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	468	mg/l	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 (TDS) Method: EPA 160.1	5,440	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	2,760	mg/l	5
0221	Nitrogen, Ammonia by distillation Method: EPA 350.2	1.6	mg/l	0.5
0475	Acidity, (to pH 3.7 and 8.3) Method: EPA 305.1	93.1	mg/l	1.0
1125	Sulfate, Turbidimetric Method: EPA 375.4	3,420	mg/l	2

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 Dissolved
Matrix: Waste Water

MSAI Sample: 32871
MSAI Group: 8110
Date Reported: 05/11/95

Discard Date: 06/10/95
Date Submitted: 04/28/95
Date Sampled: 04/27/95
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	0.1
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	488	mg/L	0.8
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	1.16	mg/l	0.25
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	330	mg/L	0.2
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.47	mg/l	0.02
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	33.9	mg/L	0.8
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	449	mg/l	4

Respectfully Submitted,
Reviewed and Approved by:

R Larsen

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: CRS Dissolved
Matrix: Waste Water

MSAI Sample: 30447
MSAI Group: 7492
Date Reported: 03/09/95

Discard Date: 04/08/95
Date Submitted: 03/02/95
Date Sampled: 02/28/95
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	1.4	mg/l	0.3
0250D	Calcium by ICP, Dissolved Method: SW-846 6010A	545	mg/L	1.0
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	2.43	mg/l	0.10
0257D	Magnesium by ICP, Dissolved Method: SW-846 6010A	350	mg/L	1.0
0258F	Manganese by ICP, Dissolved Method: SW-846 6010A	1.62	mg/l	0.02
0262D	Potassium by ICP, Dissolved Method: SW-846 6010A	41.2	mg/L	1.0
0267F	Sodium by ICP, Dissolved Method: SW-846 6010A	482	mg/l	4

Respectfully Submitted,
Reviewed and Approved by:

R E Larsen

Rolf E. Larsen
Project Manager

Carbon County, Utah
UPDES Permit Number UT0024759

OUTFALL NUMBER: CRS

Date	Time	Personnel	Weather	Discharge Present	Flow (gpm)	Field Parameters					Sample Taken	Observations (color, sheen, ordor, etc.)
						Water Level (feet)	Temp (F)	pH	SC (umhos)	DO mg/L		
10-20-95	10:45	R. MILLER	CLEAR	NO							NO	
11-21-95	11:57	R. MILLER	CLEAR	NO							NO	

Client Name: HUNTINGDON - SALT LAKE CITY, UT
Project No.: 87-927
Laboratory No.: 158104
Sample Name: CRS/121994
Sample Date: 12/19/94
Collected by: RICHARD E. GIRAUD
Time Sampled: NONE GIVEN
Sample Type: WATER

PARAMETER	METHOD NUMBER	MEASURED VALUE	METHOD DETECTION LIMIT	TIME OF ANALYSIS	DATE OF ANALYSIS	ANALYST
ANIONS*						
Alkalinity Bicarbonate as HCO3	310.1	608 mg/l	-	1330	12/22/94	BH
Alkalinity Carbonate as CO3	310.1	0 mg/l	-	1330	12/22/94	BH
Alkalinity Total as CaCO3	310.1	498 mg/l	0.4	1330	12/22/94	BH
Chloride as Cl	325.2	101 mg/l	0.7	1400	01/13/95	DD
Sulfate as SO4	375.2	2930 mg/l	2	1230	01/10/95	CC
CATIONS*						
Calcium as Ca	200.7	561 mg/l	0.1	1130	01/12/95	BH
Hardness as CaCO3	2340B	2710 mg/l	-	1130	01/12/95	BH
Magnesium as Mg	200.7	318 mg/l	0.1	1030	01/12/95	BH
Potassium as K	258.1	42 mg/l	0.2	1430	12/29/94	AAH
Sodium as Na	200.7	525 mg/l	0.8	1130	01/12/95	BH
INORGANICS						
Electrical Conductivity	120.1	5410 umhos/cm	7	1500	12/29/94	HB
Oil & Grease	413.1	<1 mg/l	1	1400	01/04/95	DD
Settleable Solids	160.5	<0.1 ml/l	0.1	-	12/21/94	DD
Total Dissolved Solids	160.1	5300 mg/l	6	1700	12/22/94	CC
Total Suspended Solids	160.2	19 mg/l	2	1530	12/22/94	CC
METALS						
Aluminum as Al (Dissolved)	200.7	0.2 mg/l	0.02	1515	01/03/95	BH
Arsenic as As (Dissolved)	206.3	<0.002 mg/l	0.002	1600	01/04/95	AAH
Boron as B (Dissolved)	200.7	1.2 mg/l	0.02	1345	01/03/95	BH
Cadmium as Cd (Dissolved)	213.2	<0.001 mg/l	0.00009	1800	01/10/95	AAH
Copper as Cu (Dissolved)	200.7	<0.06 mg/l	0.004	1515	01/03/95	BH
Iron as Fe (Dissolved)	200.7	9.15 mg/l	0.006	1345	01/03/95	BH
Iron as Fe (Total)	200.7	10.2 mg/l	0.006	1420	01/10/95	BH
Lead as Pb (Dissolved)	239.2	<0.002 mg/l	0.001	1400	01/06/95	AAH
Manganese as Mn (Dissolved)	200.7	1.38 mg/l	0.001	1345	01/03/95	AAH
Manganese as Mn (Total)	200.7	1.75 mg/l	0.001	1420	01/10/95	BH
Molybdenum as Mo (Dissolved)	200.7	<0.05 mg/l	0.009	1600	01/03/95	BH
Selenium as Se (Dissolved)	270.3	<0.002 mg/l	0.001	1500	01/03/95	AAH
Zinc as Zn (Dissolved)	200.7	<0.02 mg/l	0.002	1345	01/03/95	BH
NUTRIENTS						
Ammonia Nitrogen as N	350.1	1.58 mg/l	0.02	1630	12/28/94	CC
Nitrite as N	353.2	<0.05 mg/l	0.005	1000	12/21/94	DD
Phosphorous Total	365.1	0.14 mg/l	0.003	1630	01/10/95	CC
Nitrate as N	353.2	<0.05 mg/l	0.004	1200	12/27/94	BH

* The cation-anion analysis does not meet our quality assurance requirements. However, the values reported herein were verified by duplicate analysis. This indicates there are other unmeasured cations or anions present in the sample.

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
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

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

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: 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: 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

Client Name: HUNTINGDON - SALT LAKE CITY, UT
Project No.: 87-927
Laboratory No.: 150822
Sample Name: CRS/041994
Sample Date: 04/19/94
Collected by: CHUCK WEMPLE
Time Sampled: 1415
Sample Type: WATER

PARAMETER	MEASURED VALUE	METHOD DETECTION LIMIT	TIME OF ANALYSIS	DATE OF ANALYSIS	ANALYST
ANIONS**	**73.58 meq/l**				
Alkalinity Bicarbonate as HCO3	553 mg/l	-	1400	05/03/94	CC
Alkalinity Carbonate as CO3	0 mg/l	-	1400	05/03/94	CC
Alkalinity Total as CaCO3	453 mg/l	0.84	1400	05/03/94	CC
Chloride as Cl	101 mg/l	1.41	1530	04/27/94	CC
Sulfate as SO4	2960 mg/l	2.29	1400	05/23/94	DD
CATIONS**	**80.38 meq/l**				
Calcium as Ca	558 mg/l	0.39	1000	05/11/94	BH
Hardness as CaCO3	2890 mg/l	-	1000	05/11/94	BH
Magnesium as Mg	350 mg/l	0.31	1030	05/04/94	BH
Potassium as K	52 mg/l	0.18	1000	05/09/94	BH
Sodium as Na	515 mg/l	0.81	1000	04/25/94	AH
INORGANICS					
Electrical Conductivity	5550 umhos/cm	7	1300	04/27/94	HB
Oil & Grease	4 mg/l	0.9	1630	05/02/94	CC
Settleable Solids	<0.1 ml/l	0.1	1600	04/21/94	DD
Total Dissolved Solids	4890 mg/l	11.7	1400	04/26/94	HB
Total Suspended Solids	34 mg/l	3.5	1400	04/26/94	HB
METALS					
Aluminum as Al (Dissolved	*<1.0 mg/l	0.023	1330	05/04/94	BH
Arsenic as As (Dissolved)	<0.002 mg/l	0.0014	1400	05/02/94	AH
Boron as B (Dissolved)	*<1 mg/l	0.045	1030	05/05/94	BH
Cadmium as Cd (Dissolved)	<0.001 mg/l	0.0002	1400	04/29/94	AH
Copper as Cu (Dissolved)	*<0.2 mg/l	0.005	1330	05/04/94	BH
Iron as Fe (Dissolved)	4.63 mg/l	0.008	1030	05/06/94	BH
Iron as Fe (Total)	11.0 mg/l	0.008	1400	05/06/94	BH
Lead as Pb (Dissolved)	<0.002 mg/l	0.0012	1400	04/28/94	AH
Manganese as Mn (Dissolved)	1.90 mg/l	0.003	1330	05/04/94	BH
Manganese as Mn (Total)	1.65 mg/l	0.003	1515	05/06/94	BH
Molybdenum as Mo (Dissolved)	*<0.5 mg/l	0.023	1330	05/04/94	BH
Selenium as Se (Dissolved	<0.002 mg/l	0.0011	1400	05/04/94	AH
Zinc as Zn (Dissolved)	*<0.2 mg/l	0.008	1330	05/04/94	BH
NUTRIENTS					
Ammonia Nitrogen as N	1.42 mg/l	0.034	1600	04/25/94	CC
Nitrate + Nitrite as N	<0.05 mg/l	0.05	1330	04/22/94	DD
Phosphorous Total	0.27 mg/l	0.002	1400	04/26/94	CC

* Higher detection level due to interference.
** The cation-anion analysis does not meet our quality assurance requirements. However, the values reported herein were verified by duplicate analysis. This indicates there are other unmeasured cations or anions present in the sample.

Client Name: CHEN-NORTHERN, INC. SALT LAKE CITY, UT
Project No.: 87-927
Laboratory No.: 148524
Sample Name: CRS/011494
Sample Date: 01/14/94
Collected by: GREG McDONALD
Time Sampled: 1035
Sample Type: SURFAACE WATER

PARAMETER	MEASURED VALUE	METHOD DETECTION LIMIT	TIME OF ANALYSIS	DATE OF ANALYSIS	ANALYST
ANIONS					
Alkalinity Bicarbonate as	570 mg/l		1100	02/10/94	HB
Alkalinity Carbonate as C	0 mg/l		1100	02/10/94	HB
Alkalinity Total as CaCO3	467 mg/l	0.84	1100	02/10/94	HB
Chloride as Cl	97 mg/l	1.41	1400	01/26/94	HB
Sulfate as SO4	3180 mg/l	2.29	1115	02/02/94	CC
CATIONS					
Calcium as Ca	560 mg/l	0.39	1600	02/04/94	BH
Hardness as CaCO3	2800 mg/l		1600	02/04/94	BH
Magnesium as Mg	340 mg/l	0.31	1600	02/04/94	BH
Potassium as K	56 mg/l	0.18	1400	01/28/94	AH
Sodium as Na	530 mg/l	0.81	1600	02/04/94	BH
INORGANICS					
Oil & Grease	<1 mg/l	0.9	1030	01/27/94	TK
Settleable Solids	0.4 ml/l	0.1	1150	01/19/94	CC
Total Dissolved Solids	4930 mg/l	11.7	1720	01/20/94	HB
Total Suspended Solids	16 mg/l	3.5	1300	01/21/94	HB
METALS					
Aluminum as Al (Dissolved	* <0.5 mg/l	0.023	1400	02/03/94	BH
Arsenic as As (Dissolved)	0.005 mg/l	0.0014	0930	01/20/94	AH
Boron as B (Dissolved)	1.0 mg/l	0.045	1100	02/03/94	BH
Cadmium as Cd (Dissolved)	<0.001 mg/l	0.0002	1100	01/27/94	BH
Copper as Cu (Dissolved)	* <0.10 mg/l	0.005	1100	02/03/94	BH
Iron as Fe (Dissolved)	12 mg/l	0.008	1100	02/03/94	BH
Iron as Fe (Total)	21 mg/l	0.008	1630	02/03/94	BH
Lead as Pb (Dissolved)	<0.002 mg/l	0.0012	1300	01/20/94	AH
Manganese as Mn (Dissolve	0.33 mg/l	0.003	1500	02/25/94	BH
Manganese as Mn (Total)	0.60 mg/l	0.003	1500	02/25/94	BH
Molybdenum as Mo (Dissolv	* <0.25 mg/l	0.023	1100	02/03/94	BH
Selenium as Se (Dissolved	<0.002 mg/l	0.0011	1130	01/21/94	AH
Zinc as Zn (Dissolved)	* <0.10 mg/l	0.008	1100	02/03/94	BH

* Higher detection limit is due to interference present in the sample.

Client Name: CHEN-NORTHERN, INC. SALT LAKE CITY, UT
Project No.: 87-927
Laboratory No.: 148524
Sample Name: CRS/011494
Sample Date: 01/14/94
Collected by: GREG McDONALD
Time Sampled: 1035
Sample Type: SURFAACE WATER

PARAMETER	MEASURED VALUE	METHOD DETECTION LIMIT	TIME OF ANALYSIS	DATE OF ANALYSIS	ANALYST
NUTRIENTS					
Ammonia Nitrogen as N	2.11 mg/l	0.034	1515	01/24/94	CC
Nitrite as N	<0.05 mg/l	0.005	1200	01/20/94	DD
Phosphorous Total	0.76 mg/l	0.002	1600	02/09/94	CC
Nitrate as N	0.22 mg/l	0.005	1015	01/28/94	CC

Client Name: CHEN-NORTHERN, INC. SALT LAKE CITY, UT
Project No.: 87-927
Laboratory No.: 148529
Sample Name: DUPLICATE 148524 CRS/011494
Sample Date: 01/14/94
Collected by: GREG McDONALD
Time Sampled: 1035
Sample Type: SURFACE WATER

PARAMETER	MEASURED VALUE	METHOD DETECTION LIMIT	TIME OF ANALYSIS	DATE OF ANALYSIS	ANALYST
ANIONS					
Alkalinity Bicarbonate as	547 mg/l		1100	01/22/94	HB
Alkalinity Carbonate as C	0 mg/l		1100	01/22/94	HB
Alkalinity Total as CaCO3	448 mg/l	0.84	1100	01/22/94	HB
Chloride as Cl	103 mg/l	1.41	1400	01/26/94	HB
Sulfate as SO4	3160 mg/l	2.29	1115	02/02/94	CC
CATIONS					
Calcium as Ca	560 mg/l	0.39	1600	02/04/94	BH
Hardness as CaCO3	2800 mg/l		0930	01/21/94	BH
Magnesium as Mg	340 mg/l	0.31	1600	02/04/94	BH
Potassium as K	56 mg/l	0.18	1400	01/28/94	AH
Sodium as Na	525 mg/l	0.81	1600	02/04/94	BH
INORGANICS					
Total Dissolved Solids	5100 mg/l	11.7	1720	01/20/94	HB
Total Suspended Solids	62 mg/l	3.5	1300	01/21/94	HB
METALS					
Aluminum as Al (Dissolved	* <0.5 mg/l	0.023	1400	02/03/94	BH
Arsenic as As (Dissolved)	0.005 mg/l	0.0014	0930	01/20/94	AH
Boron as B (Dissolved)	1.2 mg/l	0.045	1100	02/03/94	BH
Cadmium as Cd (Dissolved)	<0.001 mg/l	0.0002	1100	01/27/94	BH
Copper as Cu (Dissolved)	* <0.10 mg/l	0.005	1100	02/03/94	BH
Iron as Fe (Dissolved)	12 mg/l	0.008	1100	02/03/94	BH
Iron as Fe (Total)	20 mg/l	0.008	1630	02/03/94	BH
Lead as Pb (Dissolved)	<0.002 mg/l	0.0012	1300	01/20/94	AH
Manganese as Mn (Dissolve	0.32 mg/l	0.003	1500	02/25/94	BH
Manganese as Mn (Total)	0.60 mg/l	0.003	1500	02/25/94	BH
Molybdenum as Mo (Dissolv	* <0.25 mg/l	0.023	1100	02/03/94	BH
Selenium as Se (Dissolved	<0.002 mg/l	0.0011	1130	01/21/94	AH
Zinc as Zn (Dissolved)	* <0.10 mg/l	0.008	1100	02/03/94	BH

* Higher detection limit is due to interference present in the sample.

Client Name: CHEN-NORTHERN, INC. SALT LAKE CITY, UT
Project No.: 87-927
Laboratory No.: 148529
Sample Name: DUPLICATE 148524 CRS/011494
Sample Date: 01/14/94
Collected by: GREG McDONALD
Time Sampled: 1035
Sample Type: SURFACE WATER

PARAMETER	MEASURED VALUE	METHOD DETECTION LIMIT	TIME OF ANALYSIS	DATE OF ANALYSIS	ANALYST
NUTRIENTS					
Ammonia Nitrogen as N	2.13 mg/l	0.034	1515	01/24/94	CC
Nitrite as N	<0.05 mg/l	0.005	1200	01/20/94	DD
Phosphorous Total	0.75 mg/l	0.002	1600	02/09/94	CC
Nitrate as N	0.26 mg/l	0.005	1015	01/28/94	CC

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)~~ mS	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 FACILITY

DOGM Permit Boundary Water Quality Monitoring Plan

Huntingdon Engineering & Environmental

Monitoring Location: CRS - Source

Date	Time	Personnel	Weather	Discharge Present (yes/no)	Field Parameters: Flow Meas. Method	Flow (gpm)	Temp (C)	pH (su)	SC (um)	DO (mg/L)	Sample Taken (yes/no)	Remarks (color, sheen, odor, etc.)
12-19-94	1244	RBG/REG	clear	yes	weir	4.7	20.4	6.77	4986.7	3.5	yes	vegetation
1-24-95	1445	RBG/GM	slight snow	yes	weir	1.5	16.0	6.89	6305.9*	3.3	no	*SC meter did not read line; possible data error
2-23-95	1332	RBG/GM	sunny	yes	weir	1.5	20.7	6.82	4991.6	1.2	no	

Flow Measurement Methods: W= Weir, VE= Visual Estimate, CC= Calibrated Container, DF= Debris Flow Rate Estimate

SUNNYSIDE COGENERATION ASSOCIATES FACILITY

Carbon County, Utah
Groundwater Discharge Permit Number UGW070002
Surface Water and Discharge Basin Compliance Sampling

HUNTINGDON Chen – Northern

MONITORING LOCATION NUMBER: CRS (source) ΔO GM

Runoff Basin / Spring / Other:

Sampling Parameters:

Date	Time	Personnel	Weather	Discharge Present (yes/no)	Observations (color, sheen, odor, etc.)	Flow (cfs)	Flow Meas. Method	Basin Water Level (feet)	Field Parameters: Temp (~~F~~C)	pH	SC (umhos)	DO ~~Meter No.~~	Collection Point	Sample Taken (yes/no)
9/30/93	1335	GM CW	Sunny/hot	yes	Much Rust, Warm.	~30	Vis		32	6.77	4600	6.2	Flagged Point	yes
7/27	1620	GM	Sunny/hot	yes	" "	~30	Vis		28	7.25	3200	2.4	"	NO
08/26/93	1158	GM	overcast	yes	" "	~40	VIS		25	6.81	2800	3.4	"	NO.
9/2/93	1555	CW GM	sw	yes	"	~40	Vis		28	7.12	4600	1.9	"	yes
10/26	1320	MH	windy	yes	"	40	Vis		23	6.98	4700	3.5	"	NO
11/16	1405	MH	Cold	yes	"	50	Vis		23.2	6.86	4850	2.1	"	NO
12/9	1612	GM	Cold	yes	Warmer less flow	~30	Vis		23.2	6.93	4300	1.9	"	NO
1/14/94	1011	GM	Clear Cold	yes		~100	V.S		21.2	7.08	4748	2.4	"	yes
2/28	1356	GM	PC, Cool	yes		100	Vis		36.5	6.74	4470	0.9	"	NO
3/31/94	11:57	CW/JMM	Warm, Sunny	Yes	"	?	—		23.7	6.51	5400	1.4	"	NO
4/10	1356	CW/GM	" "	yes	Weir in place	10	W		26.9	6.83	4550	3.2	Weir	yes
5/31/94	1147	RL	cool, rain	yes	rust, warm, weir in place	8.5	W		23.6	6.64	4650	1.9	weir	NO

* Basin water level measurements are taken from permanent reference point at basin location.
Flow measurement methods: W = Weir, VE = Visual Estimate, CC = Calibrated Container, DF = Debris Flow Rate Estimate

CHEMTECH
ANALYTICAL LABORATORY
6100 S. STRATLER
MURRAY, UTAH 84107
PHONE: (801) 262-7299
FAX: (801) 262-7378

DATE: 1-11-93

TO: SRS, Inc.
P.O. Box 99
Sunnyside, UT 84539

DATE SUBMITTED: 12-24-92
DATE SAMPLED: 12-22-92

CERTIFICATE OF ANALYSIS

SAMPLE ID:	Coarse Refuse Seep	
LAB:	U089131	
		ANALYST/DATE/TIME/METHOD
PARAMETER		
Bicarbonate as HCO_3, mg/l	546	RG 12-30-92 @1230 EPA 310.1
Carbonate as CO_3, mg/l	0	RG 12-30-92 @1230 EPA 310.1
Calcium as Ca, mg/l	538	AR 1-05-93 @1500 EPA 215.1
Chloride as Cl, mg/l	88	TM 12-28-92 @1215 EPA 325.3
Hardness as $CaCO_3$, mg/l	2,720	TM 12-28-92 @1400 EPA 130.2
Magnesium as Mg, mg/l	304	AR 1-05-93 @1530 EPA 242.1
Potassium as K, mg/l	55	AR 1-04-93 @1500 EPA 258.1
Sodium as Na, mg/l	494	AR 1-05-93 @1300 EPA 273.1
Sulfate as SO_4, mg/l	3,150	TM 12-28-92 @1500 EPA 375.4
TDS, mg/l	5,310	RG 12-29-92 @1030 EPA 160.1
Iron as Fe (Acid Soluble), mg/l	14.24	AR 12-28-92 @0830 EPA 236.1
Manganese as Mn (T), mg/l	1.54	AR 1-06-93 @1410 EPA 243.1
Oil & Grease, mg/l	1.8	RG 12-29-92 @0900 EPA 413.1
Settleable Solids, ml/l	0.46	RG 12-28-92 @0800 EPA 160.5
TSS, mg/l	45	RG 12-28-92 @1000 EPA 160.2
Cation, meq/l	75.5	
Anion, meq/l	77.0	
Phenols, mg/l	<.002	TH 12-30-92 @1130 EPA 420.1
pH - Field	7.5	
D.O. - Field	9.7	
Conductivity - Field	>5,000	

Russell Ruckman
Russell Ruckman

CHEMTECH
ANALYTICAL LABORATORY

6100 S. STRATLER
MURRAY, UTAH 84107
PHONE: (801) 262-7299
FAX: (801) 262-7378

DATE: 12-18-92

TO: SRS, Inc.
P.O. Box 99
Sunnyside, UT 84539

DATE SUBMITTED: 12-02-92
DATE SAMPLED: 11-30-92 @ 1020 by Peter Hess

CERTIFICATE OF ANALYSIS

SAMPLE ID:	CRS	
LAB:	U088437	
		ANALYST/DATE/TIME/METHOD
PARAMETER		
Bicarbonate as HCO_3, mg/l	566	RG 12-07-92 @1300 EPA 310.1
Carbonate as CO_3, mg/l	<1.0	RG 12-07-92 @1300 EPA 310.1
Calcium as Ca, mg/l	467	AR 12-11-92 @1415 EPA 215.1
Chloride as Cl, mg/l	90.1	NW 12-03-92 @1600 EPA 325.3
Hardness as $CaCO_3$, mg/l	3,080	RG 12-11-92 @1000 EPA 130.2
Magnesium as Mg, mg/l	336	AR 12-11-92 @1600 EPA 242.1
Potassium as K, mg/l	51	AR 12-14-92 @1230 EPA 258.1
Sodium as Na, mg/l	472	AR 12-14-92 @0830 EPA 273.1
Sulfate as SO_4, mg/l	3,045	RG 12-11-92 @1430 EPA 375.4
TDS, mg/l	5,330	RG 12-03/07 @1330 EPA 160.1
Iron as Fe (Acid Soluble), mg/l	145	AR 12-06-92 @1120 EPA 236.1
Manganese as Mn (T), mg/l	2.71	AR 12-05-92 @1010 EPA 243.1
Oil & Grease, mg/l	<1.2	RG 12-16-92 @0730 EPA 413.1
Phenols, mg/l	<.002	TH 12-08-92 @0720 EPA 420.1
Settleable Solids, ml/l	<.2	RG 12-02-92 @1430 EPA 160.5
TSS, mg/l	62	RG 12-03-92 @1330 EPA 160.2
Cation, meq/l	80.67	
Anion, meq/l	75.24	
pH - Field	8.0	
D.O. - Field	8.8	
Conductivity - Field	>5,000	

Joel Workman

CHEMTECH
ANALYTICAL LABORATORY

6160 S. STRATLER
MURRAY, UTAH 84107
PHONE: (801) 262-7299
FAX: (801) 262-7378

DATE: 11-24-92

TO: SRS, Inc.
P.O. Box 99
Sunnyside, UT 84539

DATE SUBMITTED: 10-28-92

CERTIFICATE OF ANALYSIS

SAMPLE ID:	CRS 10-23-92 @ 1255	
LAB:	U083173	
PARAMETER		ANALYST/DATE/TIME/METHOD
Bicarbonate as HCO_3, mg/l	591	RG 11-02-92 @1030 EPA 310.1
Carbonate as CO_3, mg/l	0	RG 11-02-92 @1030 EPA 310.1
Calcium as Ca, mg/l	610	AR 11-03-92 @1650 EPA 215.1
Chloride as Cl, mg/l	89.9	TM 10-29-92 @0930 EPA 325.3
Hardness as $CaCO_3$, mg/l	3,163	TM 10-29-92 @1100 EPA 130.2
Magnesium as Mg, mg/l	335	AR 11-03-92 @1250 EPA 242.1
Potassium as K, mg/l	55	AR 11-02-92 @1100 EPA 258.1
Sodium as Na, mg/l	527	AR 11-02-92 @1400 EPA 273.1
Sulfate as SO_4, mg/l	2,897	TM 10-30-92 @0815 EPA 375.4
TDS, mg/l	5,488	RG 10-31-92 @1430 EPA 160.1
Iron as Fe (T), mg/l	1,192	AR 11-04-92 @0900 EPA 236.1
Manganese as Mn (T), mg/l	7.86	AR 11-03-92 @1630 EPA 243.1
Oil & Grease, mg/l	0.5	RG 11-10-92 @1400 EPA 413.1
Phenols, mg/l	0.014	TH 11-06-92 @1050 EPA 420.1
Settleable Solids, ml/l	<.1	RH 10-31-92 @1500 EPA 160.5
TSS, mg/l	121	RG 10-31-92 @1430 EPA 160.2
pH - Field	7.6	
D.O. - Field	5.6	
Conductivity - Field	>5,000	
Cation, meq/l	82.6	
Anion, meq/l	72.6	

Joel Workman

Joel Workman

CHEMTECH
ANALYTICAL LABORATORY

6100 S. STRATLER
MURRAY, UTAH 84107
PHONE: (801) 262-7299
FAX: (801) 262-7378

DATE: 1-02-92

TO: SRS, Inc.
P.O. Box 99
Sunnyside, UT 84539

SAMPLE ID: Sample CRS, Collected 12-11-91 @ 12:01 p.m. by KRH

DATE SUBMITTED: 12-12-91

CERTIFICATE OF ANALYSIS

LAB:	U071983	
PARAMETER		**ANALYST/DATE/TIME/METHOD**
Bicarbonate as HCO_3, mg/l	541	RG 12-13-91 @1030 EPA 310.1
Carbonate as CO_3, mg/l	0	RG 12-13-91 @1030 EPA 310.1
Calcium as Ca, mg/l	431	AR 12-31-91 @1310 EPA 215.1
Chloride as Cl, mg/l	88.4	TM 12-16-91 @1320 EPA 325.3
Hardness as $CaCO_3$, mg/l	2,767	TM 12-16-91 @0810 EPA 130.2
Magnesium as Mg, mg/l	330	AR 12-31-91 @1310 EPA 242.1
Potassium as K, mg/l	35.0	AR 12-26-91 @1310 EPA 258.1
Sodium as Na, mg/l	515	AR 12-26-91 @1310 EPA 273.1
Sulfate as SO_4, mg/l	3,300	TM 12-16-91 @1145 EPA 375.4
TDS, mg/l	5,628	RG 12-13-91 @1010 EPA 160.1
Iron as Fe (T), mg/l	3.21	AR 12-27-91 @1030 EPA 236.1
Manganese as Mn (T), mg/l	0.820	AR 12-28-91 @1030 EPA 243.1
Oil & Grease, mg/l	7.5	RG 12-17-91 @0810 EPA 413.1
Settleable Solids, ml/l	<.1	RG 12-13-91 @1305 EPA 160.5
TSS, mg/l	25	RG 12-13-91 @1005 EPA 160.2
Cation, meq/l	71.96	
Anion, meq/l	80.09	
pH Units - Field	7.52	
Conductivity, umhos/cm - Field	5,000+	
Diss. Oxygen - Field	2.7	

Rex Henderson

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	5.0	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.	CLEAR 40°±	.08	2.1	18.1	7.8	2.6	2.0
2-9-95	1100	J.C.	CLEAR 35°±	.08	2.1	17.1	7.5	4.9	2.7
2-23-95	1310	J.C.	PTLY CLDY 40°±	.08	2.1	18.0	7.9	5.1	2.5
2-28-95	1100	J.C.	PTLY CLDY 45°±	.08	2.1	19.8	8.06	5.6	2.1
3-1-95	1400	J.C.	PTLY CLDY 45°±	.08	2.1	19.2	8.1	5.4	2.6
3-9-95	1330	J.C.	PTLY CLDY 40°±	.09	2.8	18.5	7.9	5.0	2.7
3-22-95	1130	J.C.	PTLY CLDY 50°±	.08	2.1	18.8	8.1	5.4	2.2
3-30-95	1310	J.C	PTLY CLDY 50°	.08	2.1	18.2	8.6	5.0	2.7
4-5-95	1030	J.C.	CLEAR 45°±	.07	1.5	18.1	8.4	5.1	2.1
4-13-95	1400	J.C.	CLEAR 50°	.07	1.5	18.0	7.8	4.8	2.5
4-20-95	1120	J.C.	RAIN 40°±	.06	1.0	18.6	8.0	5.1	2.1
4-27-95	1100	J.C.	OVERCAST 50°±	.06	1.0	19.1	8.2	5.4	2.2

CHEMTECH-FORD ANALYTICAL LABORATORIE

7-29-98

Date: 6/16/98

To: Sunnyside Cogeneration
attn: Rusty Netz
P.O. Box 10
East Carbon, UT 84520

FIELD DATA:
Temp: 11.3 c
pH: 7.75 su
SC: 900 umhos/cm
DO: 8 mg/L
Flow: 250 GPM

(From miner's spreadsheet)

Group #: 23282
Lab #: 98-U004454
Project: BASELINE
Sample Desc: Well 1

Date Sampled: 6/ 4/98
Date Submitted: 6/ 5/98

Time Sampled: 10:30
Time Received: 10:25

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MRL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Bicarbonate as HCO3, mg/L	477	1	6/11/98 9:00	SM 2320B	TSM
Carbonate as CO3, mg/L	< 1	1	6/11/98 9:00	SM 2320B	TSM
Alkalinity, Total (CaCO3), mg/L	391	1	6/11/98 9:00	SM 2320B	TSM
Chloride (D), mg/L	13	1	6/12/98 7:45	EPA 325.3	TSM
Hardness, (calc), mg CaCO3/L	322	0.2	6/16/98 8:39	CAL	RIF
Hardness Index: Hard Water					
Settleable Solids, mL/L/hr	< 0.1	0.1	6/ 5/98 12:00	EPA 160.5	LPS
Sulfate, mg/L	213	50	6/ 9/98 10:00	EPA 375.4	TSM
Total Dissolved Solids, mg/L	684	10	6/10/98 11:45	EPA 160.1	LPS
Total Suspended Solids, mg/L	< 1.2	1.2	6/ 5/98 12:00	EPA 160.2	LPS
Calcium (T), as Ca, mg/L	54.5	0.2	6/10/98 11:31	EPA 200.7	EG
Calcium (D), as Ca, mg/L	53.9	0.2	6/10/98 11:31	EPA 200.7	EG
Iron (T), as Fe, mg/L	< 0.02	0.02	6/10/98 11:31	EPA 200.7	EG
Iron (D), as Fe, mg/L	0.08	0.02	6/10/98 11:31	EPA 200.7	EG
Magnesium (T), as Mg, mg/L	46.4	0.2	6/10/98 11:31	EPA 200.7	EG
Magnesium (D), as Mg, mg/L	45.6	0.2	6/10/98 11:31	EPA 200.7	EG
Manganese (T), as Mn, mg/L	< 0.01	0.01	6/10/98 11:31	EPA 200.7	EG
Manganese (D), as Mn, mg/L	< 0.01	0.01	6/10/98 11:31	EPA 200.7	EG
Potassium (D), as K, mg/L	2.6	0.2	6/10/98 11:31	EPA 200.7	EG
Sodium (D), as Na, mg/L	123	0.2	6/10/98 11:31	EPA 200.7	EG

Approved By: _____

{generic.rpt}

6100 SOUTH STRATLER
SALT LAKE CITY UTAH 84107 6905
801 262 7299 PHONE
801 262 7373 FAX

CHEMTECH-FORD ANALYTICAL LABORATORIE

7-24-98

Date: 6/16/98

To: Sunnyside Cogeneration
attn: Rusty Netz
P.O. Box 10
East Carbon, UT 84520

Group #: 23282
Lab #: 98-U004454
Project: BASELINE
Sample Desc: Well 1

Date Sampled: 6/ 4/98
Date Submitted: 6/ 5/98

Time Sampled: 10:30
Time Received: 10:25

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MRL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Oil & Grease, mg/L	< 5	5	6/ 9/98 10:00	SM18 5520-B	KRF
Cation Sum, meq/L	11.86				
Anion Sum, meq/L	12.62				
% Cation/Anion Difference,	3.09				
Receiving Temperature, C	9.9		6/ 5/98 10:25		RCG

NOTE: Sample submitted on ice.

Approved By: _____

{generic.rpt}

6100 SOUTH STRATLER
SALT LAKE CITY UTAH 84107-5905
801 262 7299 PHONE
801 262 7373 FAX

CHEMTECH-FORD ANALYTICAL LABORATORIES

Date: 4/10/98

To: Sunnyside Cogeneration
attn: Rusty Netz
P.O. Box 10
East Carbon, UT 84520

Group #: 21769
Lab #: 98-U001943
Project: BASELIN MONITORING
Sample Desc: Well 1

Date Sampled: 3/18/98
Date Submitted: 3/19/98

Time Sampled: 8:55
Time Received: 9:15

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Oil & Grease, mg/L	< 5	5	3/24/98 14:00	SM18 5520-B	KRF
Receiving Temperature, C	2.3		3/19/98 9:15		RCG

NOTE: Sample submitted on ice.

Approved By: _____

(generic.rpt)

6100 SOUTH STRATLER
SALT LAKE CITY UTAH 84107 6905
801 262 7299 PHONE
801 262 7378 FAX

CHEMTECH-FORD ANALYTICAL LABORATORIES

Date: 4/10/98

To: Sunnyside Cogeneration
attn: Rusty Netz
P.O. Box 10
East Carbon, UT 84520

Group #: 21769
Lab #: 98-U001835
Project: BASLINE MONITORING
Sample Desc: Well #1

Date Sampled: 3/16/98
Date Submitted: 3/17/98

Time Sampled: 10:10
Time Received: 9:50

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Bicarbonate as HCO3, mg/L	528	1	3/19/98 13:00	SM 2320B	TSM
Carbonate as CO3, mg/L	< 1	1	3/19/98 13:00	SM 2320B	TSM
Alkalinity, Total (CaCO3), mg/L	433	1	3/19/98 13:00	SM 2320B	TSM
Chloride (D), mg/L	18	1	3/19/98 11:30	EPA 325.3	TSM
Hardness, EDTA Titration, mg/L	386	8	3/19/98 12:00	EPA 130.2	TSM
Hardness Index: Hard Water					
Settleable Solids, mL/L/hr	< 0.1	0.1	3/17/98 14:30	EPA 160.5	RCG
Sulfate, mg/L	318	100	3/20/98 11:00	EPA 375.4	TSM
Total Dissolved Solids, mg/L	868	10	3/19/98 13:15	EPA 160.1	LPS
Total Suspended Solids, mg/L	2	1	3/17/98 14:30	EPA 160.2	RCG
Calcium (D), as Ca, mg/L	60.0	0.3	3/25/98 11:08	EPA 200.7	EG
Iron (T), as Fe, mg/L	0.17	0.02	3/30/98 14:58	EPA 200.7	EG
Iron (D), as Fe, mg/L	< 0.02	0.02	3/25/98 11:08	EPA 200.7	EG
Magnesium (D), as Mg, mg/L	52.6	0.2	3/25/98 11:08	EPA 200.7	EG
Manganese (T), as Mn, mg/L	< 0.01	0.01	3/30/98 14:58	EPA 200.7	EG
Manganese (D), as Mn, mg/L	< 0.01	0.01	3/25/98 11:08	EPA 200.7	EG
Potassium (D), as K, mg/L	2.8	0.2	3/25/98 11:08	EPA 200.7	EG
Sodium (D), as Na, mg/L	165	2	3/25/98 11:08	EPA 200.7	EG
Cation, meq/L	14.57				
Anion, meq/L	15.80				

Approved By: R Zum

{generic.rpt}

6100 SOUTH STRATLER
SALT LAKE CITY UTAH 84107 6906
801 262 7299 PHONE
801 262 7378 FAX

CHEMTECH-FORD ANALYTICAL LABORATORIES

Date: 4/10/98

To: Sunnyside Cogeneration
attn: Rusty Netz
P.O. Box 10
East Carbon, UT 84520

Group #: 21769
Lab #: 98-U001835
Project: BASLINE MONITORING
Sample Desc: Well #1

Date Sampled: 3/16/98
Date Submitted: 3/17/98

Time Sampled: 10:10
Time Received: 9:50

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED		METHOD	ANALYST
INORGANIC PARAMETERS						
% Difference,	4.03					
Receiving Temperature, C	4.1		3/17/98	9:50		RCG

NOTE: Sample submitted on ice.

Approved By: _____

{generic.rpt}

6100 SOUTH STRATLER
SALT LAKE CITY UTAH 84107 6905
801 262 7299 PHONE
801 262 7378 FAX

CHEMTECH-FORD

3-2-98

Date: 12/ 9/97

To: Sunnyside Cogeneration
attn: Rusty Netz
P.O. Box 10
East Carbon, UT 84520

DEC 1 1 1997

Group #: 19782
Lab #: 97-U012985
Project: BASE LINE
Sample Desc: Well 1

Date Sampled: 11/20/97
Date Submitted: 11/21/97

Time Sampled: 11:15
Time Received: 9:55

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Bicarbonate as HCO3, mg/L	470	1	12/ 2/97 12:00	SM 2320B	TM
Carbonate as CO3, mg/L	< 1	1	12/ 2/97 12:00	SM 2320B	TM
Alkalinity, Total (CaCO3), mg/L	385	1	12/ 2/97 12:00	SM 2320B	TM
Chloride (D), mg/L	16	1	12/ 1/97 12:00	EPA 325.3	TM
Hardness, EDTA Titration, mg/L	370	12	12/ 1/97 14:00	EPA 130.2	TM
Hardness Index: Hard Water					
Settleable Solids, mL/L/hr	< 0.1	0.1	11/21/97 11:45	EPA 160.5	LS
Sulfate, mg/L	239	167	12/ 5/97 10:30	EPA 375.4	TM
Total Dissolved Solids, mg/L	1,100	10	11/28/97 12:45	EPA 160.1	LS
Total Suspended Solids, mg/L	1	1	11/21/97 11:45	EPA 160.2	LS
Calcium (D), as Ca, mg/L	62.6	0.1	11/25/97 13:04	EPA 200.7	LH
Iron (T), as Fe, mg/L	0.03	0.02	11/25/97 13:04	EPA 200.7	LH
Iron (D), as Fe, mg/L	< 0.02	0.02	11/25/97 13:04	EPA 200.7	LH
Magnesium (D), as Mg, mg/L	53.5	0.1	11/25/97 13:04	EPA 200.7	LH
Manganese (T), as Mn, mg/L	< 0.01	0.01	11/25/97 13:04	EPA 200.7	LH
Manganese (D), as Mn, mg/L	< 0.01	0.01	11/25/97 13:04	EPA 200.7	LH
Potassium (D), as K, mg/L	2.9	0.1	11/25/97 13:04	EPA 200.7	LH
Sodium (D), as Na, mg/L	133	0.1	11/25/97 13:04	EPA 200.7	LH
Oil & Grease, mg/L	< 5	5	11/24/97 13:00	SM18 5520-B	KRF
Cation,	13.39		12/ 9/97		RH

Approved By: _____

{generic.rpt}

CHEMTECH-FORD

3-2-98

Date: 12/ 9/97

To: Sunnyside Cogeneration
attn: Rusty Netz
P.O. Box 10
East Carbon, UT 84520

Group #: 19782
Lab #: 97-U012985
Project: BASE LINE
Sample Desc: Well 1

Date Sampled: 11/20/97
Date Submitted: 11/21/97

Time Sampled: 11:15
Time Received: 9:55

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Anion,	13.12		12/ 9/97		RH
% Difference,	-1.00				
Receiving Temperature, C	3.0		11/21/97 9:55		RCG

NOTE: Sample submitted on ice.

Approved By: _____

{generic.rpt}

RECEIVED APR - 7 1997

Date: 4/ 1/97

To: Sunnyside Cogeneration
attn: Rusty Netz
P.O. Box 10
East Carbon, UT 84520

MB 4-18-97

Group #: 13638
Lab #: 97-U001840
Project: BASELINE
Sample Desc: Well #1

QC CW 6119

Date Sampled: 2/19/97
Date Submitted: 2/20/97

Time Sampled: 10:55
Time Received: 9:45

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Bicarbonate as HCO3, mg/L	369	1	3/ 4/97 10:10	SM 2320B	AJP
Carbonate as CO3, mg/L	< 1	1	3/ 4/97 10:10	SM 2320B	AJP
Alkalinity, Total, mg/L	303	1	3/ 4/97 10:10	SM 2320B	AJP
Chloride (D), mg/L	7	1.7	2/25/97 11:22	EPA 325.3	AJP
Hardness, EDTA Titration, mg/L	350	25	3/ 6/97 9:15	EPA 130.2	AJP
Hardness Index: Hard Water					
Settleable Solids, mL/L/hr	< 0.1	0.1	2/20/97 10:45	EPA 160.5	LS
Sulfate, mg/L	124	20	3/10/97 12:50	EPA 375.4	TH
Total Dissolved Solids, mg/L	508	5	2/24/97 1:45	EPA 160.1	LS
Total Suspended Solids, mg/L	< 2.5	2.5	2/20/97 11:10	EPA 160.2	LS
Calcium (D), as Ca, mg/L	57.9	0.1	2/25/97 11:08	EPA 200.7	LH
Iron (T), as Fe, mg/L	0.06	0.02	2/21/97 10:01	EPA 200.7	LH
Iron (D), as Fe, mg/L	< 0.02	0.02	2/25/97 11:08	EPA 200.7	LH
Magnesium (D), as Mg, mg/L	50.7	0.1	2/25/97 11:08	EPA 200.7	LH
Manganese (T), as Mn, mg/L	< 0.01	0.01	2/21/97 10:01	EPA 200.7	LH
Manganese (D), as Mn, mg/L	< 0.01	0.01	2/25/97 11:08	EPA 200.7	LH
Potassium (D), as K, mg/L	< 2	2	2/25/97 11:08	EPA 200.7	LH
Sodium (D), as Na, mg/L	55.2	0.1	2/25/97 11:08	EPA 200.7	LH
Oil & Grease, mg/L	< 5	5	3/ 3/97 13:30	SM18 5520-B	BJP
Cation, meq/L	9.46				
Anion, meq/L	8.82				

Approved By: R2

(generic.rpt)

FIELD DATA SUBMITTED ON A SEPARATE PAGE

Temp: 12.1 °c
pH: 7.31
Sp Con: 1920
DO: 4.1

6100 SOUTH STRATLER
SALT LAKE CITY UTAH 84107 6905
801 262 7299 PHONE

RECEIVED
APR - 7 1997

Date: 4/ 1/97

To: Sunnyside Cogeneration
attn: Rusty Netz
P.O. Box 10
East Carbon, UT 84520

Group #: 13638
Lab #: 97-U001840
Project: BASELINE
Sample Desc: Well #1

Date Sampled: 2/19/97
Date Submitted: 2/20/97

Time Sampled: 10:55
Time Received: 9:45

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Difference,	-3.52				
Receiving Temperature, C	2.8		2/20/97 9:45		RCG

NOTE: Sample submitted on ice.

Approved By: _____

(generic.rpt)

6100 SOUTH STRATLER
SALT LAKE CITY UTAH 84107 5905
801 262 7299 PHONE

CHEMTECH-FORD ANALYTICAL LABORATORIES

RECEIVED DEC 18 1996

Date: 12/16/96

To: Sunnyside Cogeneration Assoc. Fac.
Attn. Rusty Netz
#1 Power Plant Road
Sunnyside, UT 84539

Group #: 11702
Lab #: 96-U016782
Sample Desc: #1 Well Drag

CW 3/13

Date Sampled: 11/21/96
Date Submitted: 11/22/96

Time Sampled: 9:50
Time Received: 10:30

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Bicarbonate as HCO3, mg/L	357	1	11/25/96 11:00	SM 2320B	TM
Carbonate as CO3, mg/L	< 1	1	11/25/96 11:00	SM 2320B	TM
Alkalinity, Total, mg/L	293	1	11/25/96 11:00	SM 2320B	TM
Chloride (D), mg/L	7	1	11/25/96 9:00	EPA 325.3	TM
Hardness, EDTA Titration, mg/L	303	25	11/25/96 8:30	EPA 130.2	TM
Sulfate, mg/L	86	25	11/26/96 10:30	EPA 375.4	TM
Total Dissolved Solids, mg/L	381	6	11/25/96	EPA 160.1	JBR
Calcium (D), as Ca, mg/L	49.4	0.1	12/ 3/96 14:43	EPA 200.7	LH
Iron (T), as Fe, mg/L	< 0.02	0.02	11/26/96 11:12	EPA 200.7	LH
Iron (D), as Fe, mg/L	< 0.02	0.02	12/ 3/96 14:43	EPA 200.7	LH
Magnesium (D), as Mg, mg/L	49.9	0.1	12/ 3/96 14:43	EPA 200.7	LH
Manganese (T), as Mn, mg/L	< 0.01	0.01	11/26/96 11:12	EPA 200.7	LH
Manganese (D), as Mn, mg/L	< 0.01	0.01	12/ 3/96 14:43	EPA 200.7	LH
Potassium (D), as K, mg/L	< 2	2	12/ 3/96 14:43	EPA 200.7	LH
Sodium (D), as Na, mg/L	47.9	0.1	12/ 3/96 14:43	EPA 200.7	LH
Oil & Grease, mg/L	73	5	12/ 2/96 17:00	SM18 5520-B	BJP
Cation, meq/L	8.66				
Anion, meq/L	7.84				
% Difference,	-4.96				
Receiving Temperature, C	2.8		11/22/96 10:30		RCG

Approved By: _____

Date: 12/16/96

To: Sunnyside Cogeneration Assoc. Fac.
Attn. Rusty Netz
#1 Power Plant Road
Sunnyside, UT 84539

Group #: 11702
Lab #: 96-U016782
Sample Desc: #1 Well Drag

Date Sampled: 11/21/96
Date Submitted: 11/22/96

Time Sampled: 9:50
Time Received: 10:30

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					

NOTE: Sample submitted on ice.

Approved By: RZ

CHEMTECH-FORD ANALYTICAL LABORATORIES

Date: 10/ 7/96

To: Sunnyside Cogeneration Assoc. Fac.
Attn. Rusty Netz
#1 Power Plant Road
Sunnyside, UT 84539

Group #: 10516
Lab #: 96-U013617
Project: BASELINE
Sample Desc: Well #1 DRAG

Date Sampled: 9/ 9/96
Date Submitted: 9/11/96

Time Sampled: 10:10
Time Received: 9:00

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Bicarbonate as HCO3, mg/L	453	1	9/17/96 13:30	SM 2320B	TM
Carbonate as CO3, mg/L	< 1	1	9/17/96 13:30	SM 2320B	TM
Alkalinity, Total, mg/L	372	1	9/17/96 13:30	SM 2320B	TM
Chloride (D), mg/L	14	1	9/13/96 10:00	EPA 325.3	TM
Hardness, EDTA Titration, mg/L	364	10	9/14/96 10:30	EPA 130.2	TM
Settleable Solids, mL/L/hr	0.1	0.1	9/11/96 11:45	EPA 160.5	LS
Sulfate, mg/L	208	50	9/18/96 13:00	EPA 375.4	TM
Total Dissolved Solids, mg/L	1,370	10	9/12/96 15:30	EPA 160.1	KA
Total Suspended Solids, mg/L	4	2.5	9/11/96 11:45	EPA 160.2	LS
Calcium (D), as Ca, mg/L	82.7	0.1	9/26/96 10:41	EPA 200.7	LH
Iron (T), as Fe, mg/L	0.31	0.02	10/ 4/96 9:29	EPA 200.7	LH
Iron (D), as Fe, mg/L	0.18	0.02	9/26/96 10:41	EPA 200.7	LH
Magnesium (D), as Mg, mg/L	56.6	0.1	9/26/96 10:41	EPA 200.7	LH
Manganese (T), as Mn, mg/L	< 0.01	0.01	10/ 4/96 9:29	EPA 200.7	LH
Manganese (D), as Mn, mg/L	0.03	0.01	9/26/96 10:41	EPA 200.7	LH
Potassium (D), as K, mg/L	2	2	9/26/96 10:41	EPA 200.7	LH
Sodium (D), as Na, mg/L	81.1	0.1	9/26/96 10:41	EPA 200.7	LH
Oil & Grease, mg/L	< 6	6	9/16/96 14:00	SM18 5520-B	BJP
Cation, meq/L	12.4				
Anion, meq/L	12.2				
% Difference,	-0.96				

Approved By: R.L.

1250 LAMOILLE HW (generic.rpt)
ELKO NEVADA 89801
702 738 0111 PHONE
702 753 7255 FAX

6100 SOUTH STRATLER
SALT LAKE CITY UTAH 84107 6905
801 262 7299 PHONE
801 262 7378 FAX

CHEMTECH-FORD ANALYTICAL LABORATORIES

RECEIVED JUN 17 1996

Date: 6/14/96

To: Sunnyside Cogeneration
attn: Rusty Netz
P.O. Box 10
East Carbon, UT 84520

Stored # 173195

Group #: 8483
Lab #: 96-U006833
Project: SCA-DOGM BASELINE
Sample Desc: Well #1

CM 3/13

Date Sampled: 5/22/96
Date Submitted: 5/23/96

Time Sampled: 9:35
Time Received: 9:00

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Bicarbonate as HCO3, mg/L	543	1	6/13/96 12:00	SM 2320B	TH
Carbonate as CO3, mg/L	< 1	1	6/13/96 12:00	SM 2320B	TH
Alkalinity, Total, mg/L	445	1	6/13/96 12:00	SM 2320B	TH
Chloride, mg/L	23	1	5/25/96 9:00	EPA 325.3	TM
Hardness, EDTA Titration, mg/L	450	12	5/29/96 10:00	EPA 130.2	TM
Settleable Solids, mL/L/hr	< 0.1	0.1	5/23/96 19:30	EPA 160.5	LS
Sulfate, mg/L	360	100	5/30/96 10:00	EPA 375.4	TM
Total Dissolved Solids, mg/L	1,040	10	5/31/96 19:05	EPA 160.1	RAL
Total Suspended Solids, mg/L	4	2.5	5/23/96 19:30	EPA 160.2	LS
Calcium (D), as Ca, mg/L	77.3	0.1	6/11/96 11:42	EPA 200.7	MA
Iron (T), as Fe, mg/L	0.09	0.01	6/ 4/96 9:37	EPA 200.7	LH
Iron (D), as Fe, mg/L	< 0.01	0.01	6/ 4/96 9:36	EPA 200.7	LH
Magnesium (D), as Mg, mg/L	69.6	0.1	6/11/96 11:42	EPA 200.7	MA
Manganese (T), as Mn, mg/L	< 0.01	0.01	6/ 4/96 9:37	EPA 200.7	LH
Manganese (D), as Mn, mg/L	< 0.01	0.01	6/ 4/96 9:36	EPA 200.7	LH
Potassium (D), as K, mg/L	3.6	0.1	6/11/96 11:42	EPA 200.7	MA
Sodium (D), as Na, mg/L	200	0.1	6/11/96 11:42	EPA 200.7	MA
Oil & Grease, mg/L	< 5	5	5/31/96 11:05	SM18 5520-B	RAL
Cation, meq/L	18.4				
Anion, meq/L	17.0				
% Difference,	-3.76				

Approved By: _____

CHEMTECH-FORD

Date: 3/26/96

To: Sunnyside Cogeneration Assoc. Fac.
Attn. Rusty Netz
#1 Power Plant Road
Sunnside, UT 84539

Group #: 7157
Lab #: 96-U002761
Project: DOGM
Sample Desc: Well #1 DRAG.

Date Sampled: 3/12/96
Date Submitted: 3/13/96

Time Sampled: 10:15
Time Received: 9:40

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Bicarbonate as HCO3, mg/L	602	1	3/14/96 11:00	SM 2320B	TM
Carbonate as CO3, mg/L	< 1	1	3/14/96 11:00	SM 2320B	TM
Alkalinity, Total, mg/L	493	1	3/14/96 11:00	SM 2320B	TM
Chloride, mg/L	30	1	3/15/96 9:30	EPA 325.3	TM
Hardness, EDTA Titration, mg/L	462	12	3/15/96 11:30	EPA 130.2	TM
Settleable Solids, ml/L/hr	< 0.1	0.1	3/13/96 13:20	EPA 160.5	LS
Sulfate, mg/L	485	100	3/19/96 11:30	EPA 375.4	TM
Total Dissolved Solids, mg/L	1,220	5	3/13/96 3:00	EPA 160.1	MO
Total Suspended Solids, mg/L	< 2.5	2.5	3/13/96 13:30	EPA 160.2	LS
Calcium (D), as Ca, mg/L	79.4	0.1	3/18/96 13:49	EPA 200.7	MA
Iron (T), as Fe, mg/L	0.015	0.002	3/19/96 13:15	EPA 200.7	MA
Iron (D), as Fe, mg/L	< 0.01	0.01	3/18/96 13:49	EPA 200.7	MA
Magnesium (D), as Mg, mg/L	69.5	0.1	3/18/96 13:49	EPA 200.7	MA
Manganese (T), as Mn, mg/L	< 0.002	0.002	3/19/96 13:15	EPA 200.7	MA
Manganese (D), as Mn, mg/L	0.03	0.01	3/18/96 13:49	EPA 200.7	MA
Potassium (D), as K, mg/L	3.4	0.1	3/18/96 13:49	EPA 200.7	MA
Sodium (D), as Na, mg/L	228	0.1	3/18/96 13:49	EPA 200.7	MA
Oil & Grease, mg/L	< 5	5	3/21/96 12:00	EPA 413.1	EG
Cation,	19.7				
Anion,	20.8				
% Difference,	2.80				

Approved By: R Ruler

(gerrnc.rpt)

CHEMTECH-FORD

To: Sunnyside Cogeneration Assoc. Fac.
Attn. Rusty Netz
#1 Power Plant Road
Sunnside, UT 84539

Date: 3/26/96

Group #: 7157
Lab #: 96-U002761
Project: DOGM
Sample Desc: Well #1 DRAG.

Date Sampled: 3/12/96
Date Submitted: 3/13/96

Time Sampled: 10:15
Time Received: 9:40

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED		METHOD	ANALYST
INORGANIC PARAMETERS						
Receiving Temperature, C	4	0	3/13/96	9:40		RCG

NOTE: Sample submitted on ice.

Approved By: R Rzu

(genesc.rpt)

CHEMTECH-FORD

Date: 12/13/95

To: Sunnyside Cogeneration
P.O. Box 10
East Carbon, UT 84520

Group #: 5484
Lab #: 95-U037918
Sample Desc: WELL

Date Sampled:
Date Submitted: 11/22/95

Time Sampled:
Time Received: 14:06

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Bicarbonate as HCO3, mg/L	584	1	11/30/95 12:30	SM 2320B	TM
Carbonate as CO3, mg/L	< 1	1	11/30/95 12:30	SM 2320B	TM
Alkalinity, Total, mg/L	479	1	11/30/95 12:30	SM 2320B	TM
Chloride, mg/L	33	1	12/ 5/95 11:00	EPA 325.3	TM
Hardness, EDTA Titration, mg/L	517	10	12/ 8/95 8:30	EPA 130.2	TM
Settleable Solids, mL/L/hr	< 0.2	0.2	11/22/95	EPA 160.5	RG
Sulfate, mg/L	470	6	12/ 4/95 11:00	EPA 375.4	TM
Calcium (D), as Ca, mg/L	89.6	0.2	12/ 4/95 1:10	EPA 200.7	LH
Iron (T), as Fe, mg/L	0.07	0.04	12/ 4/95 1:08	EPA 200.7	LH
Iron (D), as Fe, mg/L	< 0.04	0.04	12/ 4/95 1:10	EPA 200.7	LH
Magnesium (T), as Mg, mg/L	79.9	0.1	12/ 4/95 1:08	EPA 200.7	LH
Manganese (T), as Mn, mg/L	< 0.01	0.01	12/ 4/95 1:08	EPA 200.7	LH
Manganese (D), as Mn, mg/L	< 0.01	0.01	12/ 4/95 1:10	EPA 200.7	LH
Potassium (D), as K, mg/L	3.9	0.1	12/ 4/95 1:10	EPA 200.7	LH
Sodium (D), as Na, mg/L	235	0.2	12/ 4/95 1:10	EPA 200.7	LH
Oil & Grease, mg/L	< 5	5	12/ 4/95 16:00	EPA 413.1	EG
Cation,	14.79				
Anion,	20.29				
% Difference,	15.70				

Approved By: R Zill

(generic.rpt)

To: Sunnyside Cogeneration
P.O. Box 10
East Carbon, UT 84520

Date: 11/ 7/95

Group #: 4845
Lab #: 95-U035586
Sample Desc: Drag Well
Date Sampled: 10/20/95
Date Submitted: 10/21/95

CERTIFICATE OF ANALYSIS

PARAMETER	RESULT	MDL	DATE ANALYZED	METHOD	ANALYST
INORGANIC PARAMETERS					
Bicarbonate as HCO3, mg/L	584	1	10/30/95 12:00	SM 2320B	TM
Carbonate as CO3, mg/L	< 1	1	10/30/95 12:00	SM 2320B	TM
Alkalinity, Total, mg/L	479	1	10/30/95 12:00	SM 2320B	TM
Chloride, mg/L	25	1	10/26/95 13:20	EPA 325.3	TM
Hardness, EDTA Titration, mg/L	450	25	10/24/95 13:30	EPA 130.2	TM
Sulfate, mg/L	389	10	10/26/95 12:30	EPA 375.4	TM
Total Dissolved Solids, mg/L	1,050	10	10/25/95 12:00	EPA 160.1	MA
Calcium (T), as Ca, mg/L	70.3	0.2	10/30/95 10:07	EPA 200.7	LH
Iron (T), as Fe, mg/L	0.96	0.04	10/30/95 10:07	EPA 200.7	LH
Iron (D), as Fe, mg/L	< 0.04	0.04	11/ 1/95 16:35	EPA 200.7	LH
Magnesium (D), as Mg, mg/L	59.0	0.1	11/ 1/95 16:35	EPA 200.7	LH
Manganese (T), as Mn, mg/L	< 0.01	0.01	10/30/95 10:07	EPA 200.7	LH
Manganese (D), as Mn, mg/L	< 0.01	0.01	11/ 1/95 16:35	EPA 200.7	LH
Potassium (D), as K, mg/L	2.7	0.1	11/ 1/95 16:35	EPA 200.7	LH
Sodium (D), as Na, mg/L	175	0.2	11/ 1/95 16:35	EPA 200.7	LH
Oil & Grease, mg/L	< 5	5	10/31/95 11:55	EPA 413.1	RH
Cation, meq/L	16.04				
Anion, meq/L	18.38				
% Difference, %	6.80				

NOTE: Oil and Grease was collected in Root Beer bottles.
There is a rootbeer odor present.

Approved By: R. Pulu

(generic.rpt)

Client Name: HUNTINGDON - SALT LAKE CITY, UT
Project No.: 87-927
Laboratory No.: 158101
Sample Name: DRAGERTON WELL/121994
Sample Date: 12/19/94
Collected by: RICHARD E. GIRAUD
Time Sampled: NONE GIVEN
Sample Type: WATER

PARAMETER	METHOD NUMBER	MEASURED VALUE	METHOD DETECTION LIMIT	TIME OF ANALYSIS	DATE OF ANALYSIS	ANALYST
ANIONS						
Alkalinity Bicarbonate as HCO3	310.1	650 mg/l	-	1330	12/22/94	BH
Alkalinity Carbonate as CO3	310.1	14 mg/l	-	1330	12/22/94	BH
Alkalinity Total as CaCO3	310.1	557 mg/l	0.4	1330	12/22/94	BH
Chloride as Cl	325.2	70 mg/l	0.7	1400	01/09/95	CC
Sulfate as SO4	375.2	740 mg/l	2	1500	12/30/94	DD
CATIONS						
Calcium as Ca	200.7	117 mg/l	0.1	1030	01/10/95	BH
Hardness as CaCO3	2340B	823 mg/l	-	1030	01/10/95	BH
Magnesium as Mg	200.7	129 mg/l	0.1	1030	01/10/95	BH
Potassium as K	258.1	4 mg/l	0.2	1430	12/29/94	AAH
Sodium as Na	200.7	291 mg/l	0.8	1030	01/10/95	BH
INORGANICS						
Electrical Conductivity	120.1	2280 umhos/cm	7	1500	12/29/94	HB
Oil & Grease	413.1	<1 mg/l	1	1400	01/04/95	DD
Settleable Solids	160.5	<0.1 ml/l	0.1	--	12/21/94	DD
Total Dissolved Solids	160.1	1690 mg/l	6	1700	12/22/94	CC
Total Suspended Solids	160.2	<2 mg/l	2	1530	12/22/94	CC
METALS						
Aluminum as Al (Dissolved)	200.7	0.1 mg/l	0.02	1515	01/03/95	BH
Arsenic as As (Dissolved)	206.3	<0.002 mg/l	0.002	1600	01/04/95	AAH
Boron as B (Dissolved)	200.7	0.2 mg/l	0.02	1345	01/03/95	BH
Cadmium as Cd (Dissolved)	213.2	<0.001 mg/l	0.00009	1800	01/10/95	AAH
Copper as Cu (Dissolved)	200.7	<0.02 mg/l	0.004	1515	01/03/95	BH
Iron as Fe (Dissolved)	200.7	0.28 mg/l	0.006	1345	01/03/95	BH
Iron as Fe (Total)	200.7	0.30 mg/l	0.006	1420	01/10/95	BH
Lead as Pb (Dissolved)	239.2	<0.002 mg/l	0.001	1400	01/06/95	AAH
Manganese as Mn (Dissolved)	200.7	0.08 mg/l	0.001	1345	01/03/95	AAH
Manganese as Mn (Total)	200.7	0.09 mg/l	0.001	1420	01/10/95	BH
Molybdenum as Mo (Dissolved)	200.7	<0.05 mg/l	0.009	1600	01/03/95	BH
Selenium as Se (Dissolved)	270.3	0.004 mg/l	0.001	1500	01/03/95	AAH
Zinc as Zn (Dissolved)	200.7	<0.02 mg/l	0.002	1345	01/03/95	BH
NUTRIENTS						
Ammonia Nitrogen as N	350.1	<0.05 mg/l	0.02	1300	12/28/94	CC
Nitrite as N	353.2	<0.05 mg/l	0.005	1000	12/21/94	DD
Phosphorous Total	365.1	<0.02 mg/l	0.003	1630	01/10/95	CC
Nitrate as N	353.2	0.44 mg/l	0.004	1200	12/27/94	BH

Carbon County, Utah
UPDES Permit Number UT0024759

OUTFALL NUMBER: WELL

Date	Time	Personnel	Weather	Discharge Present	Flow (gpm)	Field Parameters					Sample Taken	Observations (color,sheen,ordor,etc.)
						Water Level (feet)	Temp (F)	pH	SC (umhos)	DO mg/L		
10-26-95	1238	R. MILLER	CLEAR	YES	600		11.4°C	7.71	722	8.0	YES	
11-21-95	1205	R. MILLER	CLEAR	YES	600		11.2°C	7.43	790	5.2	YES	

SUNNYSIDE COGENERATION ASSOCIATES FACILITY

DOGM Permit Boundary Water Quality Monitoring Plan

Huntingdon Engineering & Environmental

Monitoring Location: Well - E. Carbon Municipal Well

Date	Time	Personnel	Weather	Discharge Present (yes/no)	Field Parameters: Flow Meas. Method	Flow (gpm)	Temp (C)	pH (su)	SC (um)	DO (mg/L)	Sample Taken (yes/no)	Remarks (color, sheen, odor, etc.)
12/19/94	1118	RB6/RE6	clear	no	—	NA	8.3	7.26	1428.3	8.6	yes	
1/24/95	1403	RB6/GM	slight snow	no	—	NA	4.7	8.01	942*	9.1	no	*sc meter did not red line; possible data error
8/23/95	1402	RB6/GM	sunny	no	—	NA	7.5	8.09	619.9	8.0	no	

Flow Measurement Methods: W= Weir, VE= Visual Estimate, CC= Calibrated Container, DF= Debris Flow Rate Estimate

SUNNYSIDE COGENERATION ASSOCIATES FACILITY

Carbon County, Utah
Groundwater Discharge Permit Number UGW070002
Surface Water and Discharge Basin Compliance Sampling

HUNTINGDON Chen – Northern

MONITORING LOCATION NUMBER: WELL (E. Carbon Municipal well) DOGM

Runoff Basin / Spring / Other: Well

Sampling Parameters:

Date	Time	Personnel	Weather	Discharge Present (yes/no)	Observations (color, sheen, odor, etc.)	Flow (cfs)	Flow Meas. Method	Basin Water Level (feet)	Field Parameters Temp (~~F~~ C)	pH	SC (umhos)	DO ~~Meter No.~~	Collection Point	Sample Taken (yes/no)
6/30/93	1130	GMCW	Sunny Hot	~~yes~~ N.	Clear water	50 gpm	CC		16	7.18	1800	7.2	Haze	yes
7/27	1700	GM	Sunny Hot	yes	" "	50 gpm	V.S		17	8.18	3100	5.8	Haze	NO
8/26/93	1036	GM	overcast	yes	" "	50 gpm	CC		12	6.77	920	4.9	"	NO
9/27/93	1436	GMCW	SW	yes	" "	46	CC		15	7.10	1450	5.2	"	yes
10/27	0915	MH	Windy	yes	" "	50	CC		7	8.00	1300	4.5	—	NO
11/10	1250	MH	Cold	yes	" "	50	CC		10.0	7.27	1300	4.6	—	NO
12/9	1514	GM	Cold	NO	Pipe from well to stand pipe is Frozen.								—	NO
1/4/94	1357	GM	Cold Clear	NO	Pipe is still Frozen.								—	NO
2/28	1240	GM	PC, Cold	NO	"								—	NO
3/31/94	13:05	CW/TMM	Warm, Sunny	NO	OUT OF COMMISSION; UNSAMPLEABLE Due to MAINTENANCE								—	NO
/19	1541	CW/GM	" "	NO	" "		"							NO
31/94	133:	RU	cool, rainy	NO	the well is out of operation, the pump is pulled									No

Basin water level measurements are taken from permanent reference point at basin location.
low measurement methods: W = Weir, VE = Visual Estimate, CC = Calibrated Container, DF = Debris Flow Rate Estimate

TABLE 2

Sunnyside Cogeneration Facility
Sunnyside, Utah

7-29-98

Field Parameter Data

DOGM Permit Boundry Water Quality Monitoring Plan
Monitoring Period: Second Quarter 1998
Samples taken June 4, 1998

Monitoring Location	Location I.D.	Temp. (C)	pH (su)	SC (umhos)	Dissolved Oxygen (mg/l)	Flow Rate (gpm)	Flow method
Icelander Creek	ICE-1	12.4	8.61	1900	8	65	2
Columbia Dugway Spring	F-2	13.3	8.49	1900	8	80	2
Coarse Refuse Seep Source	CRS	NA	NA	NA	NA	NA	NA
Coarse Refuse Seep Boundary	CRB	11.2	8.13	4910	7.5	22	2
Dragerton Well	Well-1	11.3	7.75	900	8	250	4
Borehole B-6	B-6	NW	NW	NW	NW	NW	NW

Notes:
na - no flow
NW- no water present
nd - data is not available due to lack of discharge
1- Flow rates were measured using a weir.
2 - Flow rates were measured using a calibrated container and stopwatch method.
3 - Flow rates were measured using the floating debris method.
4 - Flow rates were measured using a meter

TABLE 3

Sunnyside Cogeneration Facility

Sunnyside, Utah
Second Quarter 1998
Quarterly Compliance Sampling Results

DOGM Permit Boundary Water Quality Monitoring Plan
Sampling Date: JUNE 4, 1998

	Analytical Parameters									
	Metals (mg/l)				Inorganics (mg/l)					Ions
Sample Location	Iron Total	Iron Dissolved	Manganese Total	Manganese Dissolved	Electrical Conductivity	Oil & Grease	Settleable Solids	Dissolved Solids	Suspended Solids	C - A Balance
ICE-1	0.17	0.02	<0.01	<0.01	1900	<5	<0.1	1310	11	21.7/22.61
CRB	0.04	<0.02	0.02	0.02	4910	<5	<0.1	4,910	2	61.79/63.45
CRS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
F - 2	0.41	0.04	0.02	0.01	1900	<5	<0.1	1,330	9	20.71/22.64
WELL-1	<0.02	0.08	<0.01	<0.01	900	<5	<0.1	684	<1.2	11.86/12.62
BOREHOLE B-6	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW

	Analytical Parameters									
	Anions (mg/l)					Cations (mg/l)				
Sample Location	Bicarbonate Alkalinity	Carbonate Alkalinity	Total Alkalinity	Chloride as Cl	Sulfate as SO4	Calcium as Ca	Hardness as CaCO3	Magnesium as Mg	Potassium as K	Sodium as Na
ICE-1	528	14	456	46	585	84.4	591	94.9	4.6	210
CRB	390	<1	320	148	2540	424	2150	266	21.3	419
CRS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
F - 2	576	10	488	46	556	95.7	589	95.7	4.3	203
WELL-1	477	<1	391	13	213	54.5	322	46.4	2.6	123
BOREHOLE B-6	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.
* - Higher detection limit reported due to interferences present in the sample.
na - not applicable
NW - no water present
ND - data is not available due to lack of discharge

TABLE 2

Sunnyside Cogeneration Facility
Sunnyside, Utah

Field Parameter Data
DOGM Permit Boundry Water Quality Monitoring Plan
Monitoring Period: First Quarter 1998
Samples taken March 16, 1998

Monitoring Location	Location I.D.	Temp. (C)	pH (su)	SC (umhos)	Dissolved Oxygen (mg/l)	Flow Rate (gpm)	Flow method
Icelander Creek	ICE-1	5	7.54	2170	8.2	20	2
Columbia Dugway Spring	F-2	4.9	8.56	1760	8.3	30	2
Coarse Refuse Seep Source	CRS	NA	NA	NA	NA	NA	NA
Coarse Refuse Seep Boundary	CRB	10	8.26	4800	7.9	25	2
Dragerton Well	Well-1	10.6	7.73	1380	8.1	150	4
Borehole B-6	B-6	NW	NW	NW	NW	NW	NW

Notes:
na - no flow
NW- no water present
nd - data is not available due to lack of discharge
1- Flow rates were measured using a weir.
2 - Flow rates were measured using a calibrated container and stopwatch method.
3 - Flow rates were measured using the floating debris method.
4 - Flow rates were measured using a meter

TABLE 3

Sunnyside Cogeneration Facility

Sunnyside, Utah
First Quarter 1998
Quarterly Compliance Sampling Results

DOGM Permit Boundary Water Quality Monitoring Plan
Sampling Date: MARCH 16, 1998

	Analytical Parameters									
	Metals (mg/l)				Inorganics (mg/l)					Ions
Sample Location	Iron Total 145	Iron Dissolved 40	Manganese Total 149	Manganese Dissolved 43	Electrical Conductivity	Oil & Grease* 19	Settleable Solids 99	Dissolved Solids 68	Suspended Solids 16	133 C - A 134 Balance
ICE-1	0.141	<0.02	0.04	<0.01	2170	<5	<0.1	1570	4	20.03/25.01
CRB	0.12	<0.02	0.01	<0.01	4800	<5	<0.1	4,720	15	60.41/67.62
CRS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
F - 2	0.15	0.03	0.02	0.02	1760	<5	<0.1	1,220	<1	18.81/20.78
WELL-1	0.17	<0.02	<0.01	<0.01	1380	<5	<0.1	868	2	14.57/15.8
BOREHOLE B-6	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW

	Analytical Parameters									
	Anions (mg/l)					Cations (mg/l)				
Sample Location	Bicarbonate Alkalinity 50	Carbonate Alkalinity 52	Total Alkalinity 62	Chloride as Cl 53	Sulfate as SO4 60	Calcium as Ca 36	Hardness as CaCO3 63	Magnesium as Mg 42	Potassium as K 45	Sodium as Na 48
ICE-1	496	<1	407	60	729	88.6	696	91.1	6.1	183
CRB	399	<1	327	143	2740	417	2250	261	19.8	405
CRS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
F - 2	554	3	459	42	501	76.1	578	83.1	3.1	186
WELL-1	528	<1	433	18	318	60	386	52.6	2.8	165
BOREHOLE B-6	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.
* - Higher detection limit reported due to interferences present in the sample.
na - not applicable
NW - no water present
ND - data is not available due to lack of discharge

TABLE 2

Sunnyside Cogeneration Facility

Field Parameter Data
DOGM Permit Boundry Water Quality Monitoring Plan
Quarterly Operational Compliance Sampling Results
Samples taken November 20,1997

Monitoring Location	Location I.D.	Temp. (C)	pH (su)	SC (umhos)	Dissolved Oxygen (mg/l)	Flow Rate (gpm)	Flow method
Icelander Creek	ICE-1	10.1	8.26	2358	8.7	40	2
Columbia Dugway Spring	F-2	10.3	8.46	2410	9.3	58	2
Coarse Refuse Seep Source	CRS	NA	NA	NA	NA	NA	NA
Coarse Refuse Seep Boundary	CRB	9.1	8.1	5500	8.3	35	2
Dragerton Well	Well-1	7.9	8.36	1380	7.4	125gpm	4
Borehole B-6	B-6	NW	NW	NW	NW	NW	NW

Notes:
na - no flow
NW- no water present
nd - data is not available due to lack of discharge
1- Flow rates were measured using a weir.
2 - Flow rates were measured using a calibrated container and stopwatch method.
3 - Flow rates were measured using the floating debris method.
4 - Flow rates were measured using a meter

TABLE 3

Sunnyside Cogeneration Facility

Sunnyside, Utah
Fourth Quarter 1997
Quarterly Compliance Sampling Results

DOGM Permit Boundary Water Quality Monitoring Plan
Sampling Date: November 20, 1997

	Analytical Parameters									
	Metals (mg/l)				Inorganics (mg/l)					Ions
Sample Location	Iron Total	Iron Dissolved	Manganese Total	Manganese Dissolved	Electrical Conductivity	Oil & Grease	Settleable Solids	Dissolved Solids	Suspended Solids	C - A Balance
ICE-1	0.13	0.07	<0.01	<0.01	2358	<5	<0.1	1190	6	16.72/15.76
CRB	<0.02	<0.02	0.02	0.01	5500	<5	<0.1	5,020	4	67.86/68.67
CRS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
F - 2	0.40	0.08	0.02	0.02	2410	<5	<0.1	1,160	8	15.51/14.92
WELL-1	0.03	<0.02	<0.01	<0.01	1380	<5	<0.1	1,100	1	13.39/13.12
BOREHOLE B-6	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW

	Analytical Parameters									
	Anions (mg/l)					Cations (mg/l)				
Sample Location	Bicarbonate Alkalinity	Carbonate Alkalinity	Total Alkalinity	Chloride as Cl	Sulfate as SO4	Calcium as Ca	Hardness as CaCO3	Magnesium as Mg	Potassium as K	Sodium as Na
ICE-1	448	7	380	30	353	68.8	471	74.6	3.7	162
CRB	390	<1	320	156	2780	476	2340	286	23.5	459
CRS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
F - 2	458	8	389	26	308	62.2	449	71.4	3.3	148
WELL-1	470	<1	385	16	239	62.6	370	53.5	2.9	133
BOREHOLE B-6	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.
* - Higher detection limit reported due to interferences present in the sample.
na - not applicable
NW - no water present
ND - data is not available due to lack of discharge

TABLE 2

Sunnyside Cogeneration Facility
Sunnyside, Utah

Qe cm 6/19

Field Parameter Data

DOGM Permit Boundry Water Quality Monitoring Plan
Monitoring Period: First Quarter 1997
Samples taken February 19, 1997

Monitoring Location	Location I.D.	Temp. (C)	pH (su)	SC (umhos)	Dissolved Oxygen (mg/l)	Flow Rate (gpm)	Flow method
Icelander Creek	ICE-1	NW	NW	NW	NW	NW	NW
Columbia Dugway Spring	F-2	8.1	8.41	2240	8.1	25	2
Coarse Refuse Seep Source	CRS	NA	NA	NA	NA	NA	NA
Coarse Refuse Seep Boundary	CRB	8.6	8.32	5360	8.4	22	2
Dragerton Well	Well-1	12.1	7.31	1920	4.1	150	4
Borehole B-6 (well)	B-6	NW	NW	NW	NW	NW	NW

1035 14066009 173784

Notes:
na - no flow
NW- no water present
nd - data is not available due to lack of discharge
1- Flow rates were measured using a weir.
2 - Flow rates were measured using a calibrated container and stopwatch method.
3 - Flow rates were measured using the floating debris method.
4 - Flow rates were measured using a meter

TABLE 3

Sunnyside Cogeneration Facility

Sunnyside, Utah
First Quarter 1997
Quarterly Compliance Sampling Results

DOGM Permit Boundary Water Quality Monitoring Plan
Sampling Date: FEBRUARY 19, 1997

	Analytical Parameters									
	Metals (mg/l)				Inorganics (mg/l)					Ions
Sample Location	Iron Total	Iron Dissolved	Manganese Total	Manganese Dissolved	Electrical Conductivity	Oil & Grease	Settleable Solids	Dissolved Solids	Suspended Solids	C - A Balance
ICE-1	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
CRB	<0.02	<0.02	0.02	0.01	5360	<5	<0.1	4,950	3	68.4/71.5
CRS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
F - 2	0.23	0.04	0.03	0.02	2240	<5	<0.1	1,620	<2.5	26.6/28.2
WELL-1	0.06	<0.02	<0.01	<0.01	1920	<5	<0.1	508	<2.5	9.46/8.82
BOREHOLE B-6	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW

	Analytical Parameters									
	Anions (mg/l)					Cations (mg/l)				
Sample Location	Bicarbonate Alkalinity	Carbonate Alkalinity	Total Alkalinity	Chloride as Cl	Sulfate as SO4	Calcium as Ca	Hardness as CaCO3	Magnesium as Mg	Potassium as K	Sodium as Na
ICE-1	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
CRB	415	<1	340	168	2880	449	2400	297	24	481
CRS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
F - 2	570	<1	467	63	823	116	773	117	4	255
WELL-1	369	<1	303	7	124	57.9	350	50.7	<2	55.2
BOREHOLE B-6	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.
* - Higher detection limit reported due to interferences present in the sample.
na - not applicable
NW - no water present
ND - data is not available due to lack of discharge

TABLE 2

Sunnyside Cogeneration Facility
Sunnyside, Utah

Field Parameter Data

DOGM Permit Boundry Water Quality Monitoring Plan
Monitoring Period: fourth Quarter 1996
Samples taken November 21, 1996

Monitoring Location	Location I.D.	Temp. (C)	pH (su)	SC (umhos)	Dissolved Oxygen (mg/l)	Flow Rate (gpm)	Flow method
Icelander Creek	ICE-1	NW	NW	NW	NW	NW	NW
Columbia Dugway Spring	F-2	7.3	8.52	2350	8.9	20	2
Coarse Refuse Seep Source	CRS	NA	NA	NA	NA	NA	NA
Coarse Refuse Seep Boundary	CRB	9.1	8.86	5340	8.6	20	2
Dragerton Well	Well-1	11.1	7.26	0920	5.0	150	4
Borehole B-6	B-6	NW	NW	NW	NW	NW	NW

Notes:
na - no flow
NW- no water present
nd - data is not available due to lack of discharge
1- Flow rates were measured using a weir.
2 - Flow rates were measured using a calibrated container and stopwatch method.
3 - Flow rates were measured using the floating debris method.
4 - Flow rates were measured using a meter

TABLE 3

Sunnyside Cogeneration Facility

Sunnyside, Utah
Fourth Quarter 1996
Quarterly Compliance Sampling Results

DOGM Permit Boundary Water Quality Monitoring Plan
Sampling Date: November 21, 1996

	Analytical Parameters									
	Metals (mg/l)				Inorganics (mg/l)					Ions
Sample Location	Iron Total	Iron Dissolved	Manganese Total	Manganese Dissolved	Electrical Conductivity	Oil & Grease	Settleable Solids	Dissolved Solids	Suspended Solids	C - A Balance
ICE-1	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
CRB	0.12	<0.02	0.12	0.08	5340	<5	<0.1	4,860	4	71.4/65.1
CRS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
F - 2	0.30	0.02	0.04	0.03	2350	<5	<0.1	1,570	3	28.0/25.6
WELL-1	<0.02	<0.02	<0.01	<0.01	O920	73	NA	381	NA	8.66/7.84
BOREHOLE B-6	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW

	Analytical Parameters									
	Anions (mg/l)					Cations (mg/l)				
Sample Location	Bicarbonate Alkalinity	Carbonate Alkalinity	Total Alkalinity	Chloride as Cl	Sulfate as SO4	Calcium as Ca	Hardness as CaCO3	Magnesium as Mg	Potassium as K	Sodium as Na
ICE-1	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
CRB	441	<1	362	183	2530	486	2610	302	27	496
CRS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
F - 2	643	<1	528	70	626	117	818	122	4	275
WELL-1	357	<1	293	7	86	49.4	303	49.9	<2	47.9
BOREHOLE B-6	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.
* - Higher detection limit reported due to interferences present in the sample.
na - not applicable
NW - no water present
ND - data is not available due to lack of discharge

TABLE 2

Sunnyside Cogeneration Facility

Sunnyside, Utah

Field Parameter Data

DOGM Permit Boundry Water Quality Monitoring Plan
Monitoring Period: Third Quarter 1996
Sample taken September 9, 1996

Monitoring Location	Location I.D.	Temp. (C)	pH (su)	SC (umhos)	Dissolved Oxygen (mg/l)	Flow Rate (gpm)	Flow method
Icelander Creek	ICE-1	NW	NW	NW	NW	NW	NW
Columbia Dugway Spring	F-2	13.4	8.45	2190	7.3	4.2	2
Coarse Refuse Seep Source	CRS	NA	NA	NA	NA	NA	NA
Coarse Refuse Seep Boundary	CRB	15.8	8.51	5460	6.2	12	2
Draegerton Well	Well-1	15.2	7.98	1910	5.1	150	4

Notes:
na - no flow
NW- no water present
nd - data is not available due to lack of discharge
1- Flow rates were measured using a weir.
2 - Flow rates were measured using a calibrated container and stopwatch method.
3 - Flow rates were measured using the floating debris method.
4 - Flow rates were measured using a meter

TABLE 3

Sunnyside Cogeneration Facility

Sunnyside, Utah
Third Quarter 1996
Quarterly Compliance Sampling Results

DOGM Permit Boundary Water Quality Monitoring Plan
Sampling Date: September 9, 1996

	Analytical Parameters									Ions
	Metals (mg/l)				Inorganics (mg/l)					
Sample Location	Iron Total	Iron Dissolved	Manganese Total	Manganese Dissolved	Electrical Conductivity	Oil & Grease	Settleable Solids	Dissolved Solids	Suspended Solids	C - A Balance
ICE-1	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
CRB	<0.02	<0.02	0.01	<0.01	1930	<6	<0.1	5,400	<2.5	81.8/78.8
CRS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
F - 2	0.14	0.15	0.04	0.04	5150	<6	<0.1	1,590	<2.5	28.5/26.8
WELL	0.31	0.18	<0.01	0.03	2180	<6	0.1	1,370	4	12.4/12.2

	Analytical Parameters									
	Anions (mg/l)					Cations (mg/l)				
Sample Location	Bicarbonate Alkalinity	Carbonate Alkalinity	Total Alkalinity	Chloride as Cl	Sulfate as SO4	Calcium as Ca	Hardness as CaCO3	Magnesium as Mg	Potassium as K	Sodium as Na
ICE-1	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
CRB	421	<1	346	195	3190	547	2660	360	32	554
CRS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
F - 2	676	<1	554	64	667	107	698	127	4	290
WELL	453	<1	372	14	208	82.7	364	56.6	2	81.1

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.
* - Higher detection limit reported due to interferences present in the sample
na - not applicable
NW - no water present
ND - data is not available due to lack of discharge

TABLE 2

entered 3-97

Sunnyside Cogeneration Facility

Sunnyside, Utah

Field Parameter Data

DOGM Permit Boundry Water Quality Monitoring Plan
Monitoring Period: Second Quarter 1996
Sample taken May 22, 1996

Monitoring Location	Location I.D.	Temp. (C)	pH (su)	SC (umhos)	Dissolved Oxygen (mg/l)	Flow Rate (gpm)	Flow method
Icelander Creek	ICE-1	15.6	8.51	1890	6	13	3
Columbia Dugway Spring	F-2	12.2	8.27	1620	6.9	10	2
Coarse Refuse Seep Source	CRS	nd	nd	nd	nd	nd	nd
Coarse Refuse Seep Boundary	CRB	13.8	8.11	4680	8.6	12	1
Draegerton Well	Well-1	12.1	7.48	2130	2.3	220	4

Notes:
na - not applicable
nd - data is not available due to lack of discharge
1- Flow rates were measured using a weir.
2 - Flow rates were measured using a calibrated container and stopwatch method.
3 - Flow rates were measured using the floating debris method.
4 - Flow rates were measured using a meter

Entered 3-97

TABLE 3

Sunnyside Cogeneration Facility

Sunnyside, Utah
Second Quarter 1996
Quarterly Compliance Sampling Results

DOGM Permit Boundary Water Quality Monitoring Plan
Sampling Date: May 22, 1996

	Analytical Parameters									
	Metals (mg/l)				Inorganics (mg/l)					Ions
Sample Location	Iron Total	Iron Dissolved	Manganese Total	Manganese Dissolved	Electrical Conductivity	Oil & Grease	Settleable Solids	Dissolved Solids	Suspended Solids	C - A Balance
ICE-1	0.37	0.01	0.01	<0.01	1890	<5	0.5	1,360	27	20.8/21.4
F - 2	0.25	0.02	0.03	0.03	1620	<5	<0.1	1,230	<2.5	2.1/21.2
CRS	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CRB	0.07	<0.01	0.04	0.04	4680	<5	<0.1	5,080	<2.5	73.5/67.9
WELL	0.09	<0.01	<0.01	<0.01	2130	<5	<0.1	1,040	4	18.4/17.0

	Analytical Parameters									
	Anions (mg/l)					Cations (mg/l)				
Sample Location	Bicarbonate Alkalinity	Carbonate Alkalinity	Total Alkalinity	Chloride as Cl	Sulfate as SO4	Calcium as Ca	Hardness as CaCO3	Magnesium as Mg	Potassium as K	Sodium as Na
ICE-1	541	21	478	50	498	56.2	516	95.3	4.8	231
F - 2	576	12	493	47	480	74.7	545	88.8	3.5	230
CRS	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CRB	411	<1	337	196	2,670	472	2,540	324	33	515
WELL	543	<1	445	23	360	77.3	450	69.6	3.6	200

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.

* - Higher detection limit reported due to interferences present in the sample.

na - not applicable

nd - data is not available due to lack of discharge

TABLE 2

Sunnyside Cogeneration Facility

Sunnyside, Utah

Field Parameter Data

DOGM Permit Boundry Water Quality Monitoring Plan
Monitoring Period: First Quarter 1996
Sample taken March 12, 1996

Monitoring Location	Location I.D.	Temp. (C)	pH (su)	SC (umhos)	Dissolved Oxygen (mg/l)	Flow Rate (gpm)	Flow method
Icelander Creek	ICE-1	7.7	7.68	1990	6.2	29	3
Columbia Dugway Spring	F-2	5.9	8.52	1930	6.6	22.5	2
Coarse Refuse Seep Source	CRS	nd	nd	nd	nd	nd	nd
Coarse Refuse Seep Boundary	CRB	10	8.26	5150	6.6	18	1
Draegerton Well	Well-1	12	7.55	2180	2.9	Not Running	NA

Notes:
na - not applicable
nd - data is not available due to lack of discharge
1- Flow rates were measured using a weir.
2 - Flow rates were measured using a calibrated container and stopwatch method.
3 - Flow rates were measured using the floating debris method.
4 - Flow rates were measured using a meter

JAN 12, 96 UPDES INSPECTIONS R. MILLER FEB 15, 96

0844	OUTFALL	001	NO DISCHARGE	PUMPING TO OLD RES.	COLD/SUNNY			
0852	OUTFALL	002	NO DISCHARGE	" " " "	COLD/SUNNY		outfall	OC
0819	OUTFALL	015	NO DISCHARGE	DRY	COLD/SUNNY		OUTFALL	OC
0826	OUTFALL	007	NO DISCHARGE	DRY	COLD/SUNNY		OUTFALL	O
0828	OUTFALL	012	NO DISCHARGE	½" ICE	COLD/SUNNY		OUTFALL	OC
0857	OUTFALL	004	NO DISCHARGE	DRY	COLD/SUNNY		OUTFALL	O1
0902	OUTFALL	016	NO DISCHARGE	DRY	COLD/SUNNY		OUTFALL	OC
0909	OUTFALL	008	NO DISCHARGE	DRY	COLD/SUNNY		OUTFALL	O1
0921	OUTFALL	009	NO DISCHARGE	DRY	COLD/SUNNY		OUTFALL	OC
0923	OUTFALL	014	NO DISCHARGE	DRY	COLD/SUNNY		OUTFALL	OC
0925	OUTFALL	013	NO DISCHARGE	DRY	COLD/SUNNY		OUTFALL	O
							OUTFALL	O1

R. NETZ
R. MILLER

JAN 29, 96 UPDES INSPECTIONS

1315	OUTFALL	001	NO DISCHARGE	PUMPING TO NEW	PTLY CLOUDY 8" SNOW
1324	OUTFALL	002	NO DISCHARGE	" " "	" " "
1330	OUTFALL	015	NO DISCHARGE	4" SNOW	PTLY CLOUDY
1339	OUTFALL	007	NO DISCHARGE	4" SNOW	" "
1346	OUTFALL	012	NO DISCHARGE	2" SNOW	" "
1400	OUTFALL	004	NO DISCHARGE	4" SNOW	PTLY CLOUDY
1406	OUTFALL	016	NO DISCHARGE	4" SNOW	" "
1412	OUTFALL	008	NO DISCHARGE	4" SNOW	" "
1427	OUTFALL	009	NO DISCHARGE	MUDDY BOTTOM	PTLY CLOUDY
1431	OUTFALL	014	NO DISCHARGE	MUDDY BOTTOM	" "
1432	OUTFALL	013	NO DISCHARGE	2" WATER - ICE	" "

12-7-95 UPDES INSPECTIONS R. MILLER

0902	OUTFALL	001	NO DISCHARGE	PUMPS OFF	LT SNOW
0909	OUTFALL	002	NO DISCHARGE	PUMPS OFF	LT SNOW
0920	OUTFALL	015	NO DISCHARGE	DRY	LT SNOW
0932	OUTFALL	007	NO DISCHARGE	DRY	LT SNOW
0942	OUTFALL	012	NO DISCHARGE	2" WATER	LT SNOW
0957	OUTFALL	004	NO DISCHARGE	DRY	LT SNOW
1002	OUTFALL	016	NO DISCHARGE	DRY	LT SNOW
1008	OUTFALL	008	NO DISCHARGE	DRY	LT SNOW
1021	OUTFALL	009	NO DISCHARGE	DRY	LT SNOW
1024	OUTFALL	014	NO DISCHARGE	DAMP	LT SNOW
1025	OUTFALL	013	NO DISCHARGE	3" WATER	LT SNOW

12-18-95 UPDES INSPECTIONS R. MILLER

0833	OUTFALL	001	NO DISCHARGE	PUMPS OFF	CLEAR/COLD
0840	OUTFALL	002	NO DISCHARGE	PUMPS OFF	CLEAR/COLD
0847	OUTFALL	015	NO DISCHARGE	DRY	CLEAR/COLD
0855	OUTFALL	007	NO DISCHARGE	DRY	CLEAR/COLD
0900	OUTFALL	012	NO DISCHARGE	1½" ICE	CLEAR/COLD
0921	OUTFALL	004	NO DISCHARGE	DRY	CLEAR/COLD
0927	OUTFALL	016	NO DISCHARGE	DRY	CLEAR/COLD
0932	OUTFALL	008	NO DISCHARGE	DRY	CLEAR/COLD
0939	OUTFALL	009	NO DISCHARGE	DRY	CLEAR/COLD
0942	OUTFALL	014	NO DISCHARGE	DRY	CLEAR/COLD
0943	OUTFALL	013	NO DISCHARGE	½" WATER	CLEAR/COLD

11-8-95 UPDES INSPECTIONS R. MILLER

0834	OUTFALL 001	NO DISCHARGE	PUMPS OFF	COOL/SUNNY
0840	OUTFALL 002	NO DISCHARGE	PUMPS OFF	COOL/SUNNY
0852	OUTFALL 015	NO DISCHARGE	MOIST BOTTOM	COOL/SUNNY
0901	OUTFALL 007	NO DISCHARGE	DRY BOTTOM	COOL/SUNNY
0906	OUTFALL 012	NO DISCHARGE	4" WATER	COOL/SUNNY
0935	OUTFALL 004	NO DISCHARGE	DRY	COOL/SUNNY
0940	OUTFALL 016	NO DISCHARGE	DRY	COOL/SUNNY
0946	OUTFALL 008	NO DISCHARGE	DRY	COOL/SUNNY
0957	OUTFALL 009	NO DISCHARGE	MUDDY BOTTOM	COOL/SUNNY
1001	OUTFALL 014	NO DISCHARGE	MUDDY BOTTOM	COOL/SUNNY
1003	OUTFALL 013	NO DISCHARGE	10" WATER	COOL/SUNNY

11-22-95 UPDES INSPECTIONS R. MILLE

1026	OUTFALL 001	NO DISCHARGE	PUMPS OFF	PTLY CLOUDY / C.
1033	OUTFALL 002	NO DISCHARGE	PUMPS OFF	PTLY CLOUDY / C
1045	OUTFALL 015	NO DISCHARGE	DRY	PTLY CLOUDY / C
1053	OUTFALL 007	NO DISCHARGE	DRY	PTLY CLOUDY / C
1056	OUTFALL 012	NO DISCHARGE	3" WATER	PTLY CLOUDY / C
1111	OUTFALL 004	NO DISCHARGE	DRY	PTLY CLOUDY / C
1115	OUTFALL 016	NO DISCHARGE	DRY	PTLY CLOUDY / C
1119	OUTFALL 008	NO DISCHARGE	DRY	PTLY CLOUDY / C
1137	OUTFALL 009	NO DISCHARGE	DAMP	PTLY CLOUDY / C
1142	OUTFALL 014	NO DISCHARGE	1/4" WATER	PTLY CLOUDY / C
1145	OUTFALL 013	NO DISCHARGE	4" WATER	PTLY CLOUDY / C

10-6-95 UPDES INSPECTIONS INSPECTOR R. MILLER

0800	OUTFALL	001	NO DISCHARGE	PUMP OFF	COOL/SUNNY
0810	OUTFALL	002	NO DISCHARGE	PUMP OFF	COOL/SUNNY
0825	OUTFALL	015	DISCHARGE	1'5.75"	COOL/SUNNY
0837	OUTFALL	007	NO DISCHARGE	1/2" WATER	COOL/SUNNY
0846	OUTFALL	012	NO DISCHARGE	12" WATER	COOL/SUNNY
0939	OUTFALL	004	NO DISCHARGE	TRACE WATER	COOL/SUNNY
0947	OUTFALL	016	NO DISCHARGE	DRY	COOL/SUNNY
0955	OUTFALL	008	NO DISCHARGE	MUDDY BOTTOM	COOL/SUNNY
1005	OUTFALL	009	NO DISCHARGE	10" WATER	COOL/SUNNY
1008	OUTFALL	014	NO DISCHARGE	4" WATER	COOL/SUNNY
1012	OUTFALL	013	NO DISCHARGE	18" WATER	COOL/SUNNY

10-23-95 UPDES INSPECTIONS INSPECTOR R MILLER

12:14	OUT FALL	001	NO DISCHARGE	PUMPS OFF	SNOW ONGRD/[illegible]
12:22	OUT FALL	002	NO DISCHARGE	PUMPS OFF	SNOW ONGRD/[illegible]
12:35	OUTFALL	015	NO DISCHARGE	MUDDY BOTTOM	COOL/PTLY CLOUDY
12:41	OUTFALL	007	NO DISCHARGE	MOIST BOTTOM	COOL/PTLY CLOUDY
12:43	OUTFALL	012	NO DISCHARGE	12" WATER	COOL/PTLY CLOUDY
12:58	OUTFALL	004	NO DISCHARGE	TRACE WATER	COOL/PTLY CLOUDY
13:03	OUTFALL	016	NO DISCHARGE	DRY	COOL/PTLY CLOUDY
13:10	OUTFALL	008	NO DISCHARGE	MUDDY BOTTOM	COOL/PTLY CLOUDY
13:24	OUTFALL	009	NO DISCHARGE	16" WATER	COOL/PTLY CLOUDY
13:28	OUTFALL	014	NO DISCHARGE	MUDDY BOTTOM	COOL/PTLY CLOUDY
13:30	OUTFALL	013	NO DISCHARGE	18" WATER	COOL/PTLY CLOUDY

6-6-95 UPDES INSPECTIONS INSPECTOR Russ Miller

0800	OUTFALL 001	NO DISCHARGE	CAPPED	SUNNY
0801	OUTFALL 002	NO DISCHARGE TO CREEK	TEST PUMPING	SUNNY
0859	OUTFALL 015	NO DISCHARGE	MUD	SUNNY
0907	OUTFALL 007	NO DISCHARGE	DRY	SUNNY
0911	OUTFALL 012	NO DISCHARGE	3"-4" WATER	SUNNY
0925	OUTFALL 004	NO DISCHARGE	6"-8" WATER	SUNNY
0931	OUTFALL 016	NO DISCHARGE	DRY	SUNNY
0936	OUTFALL 008	NO DISCHARGE	1" WATER	SUNNY
0954	OUTFALL 009	NO DISCHARGE	4"-6" WATER	SUNNY
0956	OUTFALL 014	NO DISCHARGE	2"-4" WATER	SUNNY
1000	OUTFALL 013	NO DISCHARGE	2'-3' WATER	SUNNY

6-20-95 UPDES INSPECTIONS INSPECTORS Russ Miller & DAN Bachand

0815	OUTFALL 001	NO DISCHARGE	TEST PUMP INTO PONDS	SUNNY
0832	OUTFALL 002	NO DISCHARGE	" " " "	SUNNY
0850	OUTFALL 015	NO DISCHARGE	DRY	SUNNY
0903	OUTFALL 007	NO DISCHARGE	DRY	SUNNY
0907	OUTFALL 012	NO DISCHARGE	4-5" WATER	SUNNY
0930	OUTFALL 004	NO DISCHARGE	6" WATER	SUNNY
0937	OUTFALL 016	NO DISCHARGE	DRY	SUNNY
0950	OUTFALL 008	NO DISCHARGE	MUDDY BOTTOM	SUNNY
1020	OUTFALL 009	NO DISCHARGE	6" WATER	SUNNY
1025	OUTFALL 014	NO DISCHARGE	2" WATER	SUNNY
1027	OUTFALL 013	NO DISCHARGE	12" WATER	SUNNY

TABLE 2

Sunnyside Cogeneration Facility

Sunnyside, Utah

Field Parameter Data

DOGM Permit Boundry Water Quality Monitoring Plan
Monitoring Period: September, October, November, December 1995
Sample taken November 21, 1995

Monitoring Location	Location I.D.	Temp. (C)	pH (su)	SC (umhos)	Dissolved Oxygen (mg/l)	Flow Rate (gpm)	Flow method
Icelander Creek	ICE-1	7.2	8.49	2280	7	50	3
Columbia Dugway Spring	F-2	9.7	8.34	2300	5.8	15	3
Coarse Refuse Seep Source	CRS	nd	nd	nd	nd	nd	nd
Coarse Refuse Seep Boundary	CRB	8.5	8.06	5291	6.2	25	1
Draegerton Well	Well-1	11.2	7.43	790	5.2	600	4
Coal Runoff Basin	Outfall 004	nd	nd	nd	nd	nd	nd
Rail Cut Pond	Outfall 007	nd	nd	nd	nd	nd	nd
Old Coarse Refuse Pond	Outfall 008	nd	nd	nd	nd	nd	nd
Pasture Sediment Pond	Outfall 009	nd	nd	nd	nd	nd	nd
Coarse Refuse Toe Pond	Outfall 012	nd	nd	nd	nd	nd	nd
Borrow Area Pond	Outfall 016	nd	nd	nd	nd	nd	nd

Notes:
na - not applicable
nd - data is not available due to lack of discharge
1- Flow rates were measured using a weir.
2 - Flow rates were measured using a calibrated container and stopwatch method.
3 - Flow rates were measured using the floating debris method.
4 - Flow rates were measured using a meter

TABLE 3

Sunnyside Cogeneration Facility

Sunnyside, Utah

Quarterly Compliance Sampling Results

DOGM Permit Boundary Water Quality Monitoring Plan
Sampling Date: November 21, 1995

	Analytical Parameters									Ions
	Metals (mg/l)				Inorganics (mg/l)					C - A
Sample Location	Iron Total	Iron Dissolved	Manganese Total	Manganese Dissolved	Electrical Conductivity	Oil & Grease	Settleable Solids	Dissolved Solids	Suspended Solids	Balance
ICE-1	0.12	<0.04	0.01	<0.01	2280	<5	<0.2	1,150	11	21.33/20.96
F - 2	0.2	<0.04	0.04	<0.01	2300	<5	<0.2	1,080	3	20.22/19.96
CRS	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CRB	<0.08	<0.08	0.1	0.03	5291	<5	<0.2	4,870	15	78.18/76.03
WELL	0.07	<0.04	<0.01	<0.01	790	<5	<0.2	na	na	14.79/20.29

	Analytical Parameters									
	Anions (mg/l)					Cations (mg/l)				
Sample Location	Bicarbonate Alkalinity	Carbonate Alkalinity	Total Alkalinity	Chloride as Cl	Sulfate as SO4	Calcium as Ca	Hardness as CaCO3	Magnesium as Mg	Potassium as K	Sodium as Na
ICE-1	563	8	474	42	494	60.4	509	90.6	4.6	247
F - 2	608	3	503	37	425	68.8	505	83.4	3.7	226
CRS	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CRB	423	<1	347	250	2,980	521	2,460	349	27.9	523
WELL	584	<1	479	33	470	89.6	517	79.9	3.9	235

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.

* - Higher detection limit reported due to interferences present in the sample.

na - not applicable

nd - data is not available due to lack of discharge

TABLE 2

Sunnyside Cogeneration Facility

Sunnyside, Utah

Field Parameter Data

DOGM Permit Boundry Water Quality Monitoring Plan
Monitoring Period: June, July, August, 1995
Sample taken October 20, 1995

Monitoring Location	Location I.D.	Temp. (C)	pH (su)	SC (umhos)	Dissolved Oxygen (mg/l)	Flow Rate (gpm)	Flow method
Icelander Creek	ICE-1	10.2	8.61	2356	6.8	50	3
Columbia Dugway Spring	F-2	12.9	8.41	2298	6.8	15	3
Coarse Refuse Seep Source	CRS	nd	nd	nd	nd	nd	nd
Coarse Refuse Seep Boundary	CRB	8.2	8.15	5280	3.6	30	1
Draegerton Well	Well-1	11.4	7.77	722	8	600	4 /
Coal Runoff Basin	Outfall 004	nd	nd	nd	nd	nd	nd
Rail Cut Pond	Outfall 007	nd	nd	nd	nd	nd	nd
Old Coarse Refuse Pond	Outfall 008	nd	nd	nd	nd	nd	nd
Pasture Sediment Pond	Outfall 009	nd	nd	nd	nd	nd	nd
Coarse Refuse Toe Pond	Outfall 012	nd	nd	nd	nd	nd	nd
Borrow Area Pond	Outfall 016	nd	nd	nd	nd	nd	nd

Notes:
na - not applicable
nd - data is not available due to lack of discharge
1- Flow rates were measured using a weir.
2 - Flow rates were measured using a calibrated container and stopwatch method.
3 - Flow rates were measured using the floating debris method.
4 - Flow rates were measured using a meter

TABLE 3

Sunnyside Cogeneration Facility

Sunnyside, Utah

Quarterly Compliance Sampling Results

DOGM Permit Boundary Water Quality Monitoring Plan
Sampling Date: October 10, 1995

	Analytical Parameters									
	Metals (mg/l)				Inorganics (mg/l)					Ions
Sample Location	Iron Total	Iron Dissolved	Manganese Total	Manganese Dissolved	Electrical Conductivity	Oil & Grease	Settleable Solids	Dissolved Solids	Suspended Solids	C - A Balance
ICE-1	0.16	<0.04	<0.01	<0.01	2356	<5	<0.2	1,160	3	18.29/20.94
F - 2	0.17	<0.04	0.04	<0.01	2298	<5	<0.2	1,160	<2.5	18.04/20.45
CRS	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CRB	0.14	0.05	0.18	0.1	5280	<5	<0.2	5,170	<2.5	73.87/77.18
WELL	0.96	<0.04	<0.01	<0.01	722	<5	na	1,050	na	16.04/18.38

	Analytical Parameters									
	Anions (mg/l)					Cations (mg/l)				
Sample Location	Bicarbonate Alkalinity	Carbonate Alkalinity	Total Alkalinity	Chloride as Cl	Sulfate as SO4	Calcium as Ca	Hardness as CaCO3	Magnesium as Mg	Potassium as K	Sodium as Na
ICE-1	599	3	496	40	475	57	500	76.7	3.3	208
F - 2	630	<1	517	37	436	77.6	520	69.8	2.9	192
CRS	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CRB	417	<1	342	250	3,040	547	2,570	314	24.7	462
WELL	584	<1	479	25	389	70.3	450	59	2.7	175

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.

* - Higher detection limit reported due to interferences present in the sample.

na - not applicable

nd - data is not available due to lack of discharge

TABLE 2

Sunnyside Cogeneration Facility
Sunnyside, Utah

Field Parameter Data

DOGM Permit Boundary Water Quality Monitoring Plan
Monitoring Period: December 1994, January, February 1995

Monitoring Location	Location I.D.	December 19, 1994					January 24, 1995					February 23, 1995				
		Temp. (°C)	pH (su)	SC (umhos)	Dissolved Oxygen (mg/l)	Flow Rate (gpm)	Temp. (°C)	pH (su)	SC (umhos)	Dissolved Oxygen (mg/l)	Flow Rate (gpm)	Temp. (°C)	pH (su)	SC (umhos)	Dissolved Oxygen (mg/l)	Flow Rate (gpm)
Icelander Creek	ICE-1	3.0	8.08	2392.5	15.4	6.0	3.0	8.32	2738.2	11.5	30.0	6.2	8.36	1972.2	9.0	33.0
Columbia Dugway Spring	F-2	3.5	8.20	2310.0	15.6	26.0	2.1	8.42	2541.0	8.7	20.0	8.9	8.31	2068.3	7.6	19.0
Coarse Refuse Seep Source	CRS	20.4	6.77	4986.7	3.5	4.7	16.0	6.89	6305.9	3.3	1.5	20.7	6.82	4991.6	1.2	1.5
Coarse Refuse Center Weir	CRM	na	na	na	na	na	na	na	na	na	29.0	na	na	na	na	29.0
Coarse Refuse Seep Boundary	CRB	6.6	7.92	5214.0	14.9	40.0	3.9	8.05	8704.1	8.9	32.0	13.0	8.10	4962.4	8.0	32.0
Draegerton Well	Well-1	8.3	7.26	1428.3	8.6	na	4.7	8.01	942.0	9.1	na	7.5	8.09	619.9	8.0	na
Coal Runoff Basin	Outfall 004	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Rail Cut Pond	Outfall 007	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Old Coarse Refuse Pond	Outfall 008	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Pasture Sediment Pond	Outfall 009	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Coarse Refuse Toe Pond	Outfall 012	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Borrow Area Pond	Outfall 016	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

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Notes:
na – not applicable
nd – data is not available due to lack of discharge
[1] Flow rates were measured using a weir.
[2] Flow rates were measured using a calibrated container and stopwatch method.
[3] Flowrates were measured using the floating debris method.

TABLE 3

Sunnyside Cogeneration Facility
Sunnyside, Utah

Quarterly Compliance Sampling Results

DOGM Permit Boundary Water Quality Monitoring Plan
Sampling Date: December 19, 1994

Sample Location	Analytical Parameters															
	Metals (mg/l)													Inorganics (mg/l)		
	Aluminum Dissolved	Arsenic Dissolved	Boron Dissolved	Cadmium Dissolved	Copper Dissolved	Iron Dissolved	Iron Total	Lead Dissolved	Manganese Dissolved	Manganese Total	Molybdenum Dissolved	Selenium Dissolved	Zinc Dissolved	Electrical Conductivity	Oil & Grease	Settleable Solids
ICE-1	0.2	<0.002	0.2	<0.001	<0.02	<0.05	0.26	<0.002	<0.04	<0.02	<0.05	0.003	<0.02	2500	<1	<0.1
F-2	<0.1	<0.002	0.1	<0.001	<0.02	0.08	0.10	<0.002	<0.02	<0.02	<0.05	<0.002	<0.02	1300	<1	<0.1
CRS	0.2	<0.002	1.2	<0.001	<0.06	9.15	10.2	<0.002	1.38	1.75	<0.05	<0.002	<0.02	5410	<1	<0.1
CRB	0.3	<0.002	0.9	<0.001	<0.06	<0.15	0.18	<0.002	0.12	0.15	<0.05	<0.002	<0.02	5190	<1	<0.1
WELL	0.1	<0.002	0.2	<0.001	<0.02	0.28	0.30	<0.002	0.08	0.09	<0.05	0.004	<0.02	2280	<1	<0.1

Sample Location	Analytical Parameters															
	Inorganics (mg/l)		Anions (mg/l)					Cations (mg/l)					Nutrients (mg/l)			
	Dissolved Solids	Suspended Solids	Bicarbonate Alkalinity	Carbonate Alkalinity	Total Alkalinity	Chloride as Cl	Sulfate as SO4	Calcium as Ca	Hardness as CaCO3	Magnesium as Mg	Potassium as K	Sodium as Na	Ammonia as N	Nitrite as N	Nitrate as N	Phosphorous Total
ICE-1	1780	9.0	593	14	510	74	770	104	787	128	5	312	<0.05	<0.05	0.50	0.02
F-2	894	3.0	492	0	403	23	290	72	452	66	3	141	<0.05	<0.05	0.66	<0.02
CRS	5300	19.0	608	0	498	101	2930	561	2710	318	42	525	1.58	<0.05	<0.05	0.14
CRB	5070	<1.0	440	0	361	197	2800	570	2780	330	31	507	0.07	<0.05	0.70	<0.02
WELL	1690	<2.0	650	14	557	70	740	117	823	129	4	291	<0.05	<0.05	0.44	<0.02

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A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.

* – Higher detection limit reported due to interferences present in the sample.

na – not applicable

SUNNYSIDE COGENERATION ASSOCIATES
COARSE REFUSE SEEP MONITORING performed by EWP

PARAMETER	19-May-94			16-Jun-94			21-Jul-94		
mg/l	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
NON-FILTERED SAMPLES									
Boron	1.01	1.01	0.75	1.14	1.06	0.91	1.05	1.04	0.9
Aluminum	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium	482	447	430	525	479	478	492	441	452
Copper	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	7.21	2.49	0.12	7.17	2.03	ND	6.73	3.99	ND
Magnesium	312	312	281	347	333	321	315	308	303
Manganese	1.32	0.56	ND	1.57	0.56	ND	1.46	0.68	ND
Nickel	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	33.1	33.9	25.3	40.3	37.1	30.9	34.8	33.7	28
Sodium	492	503	437	473	498	486	441	428	440
Mercury	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alkalinity-Bicarbonate	456	382	302	466	390	302	480	394	306
Alkalinity-Carbonate	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alkalinity-Hydroxide	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Suspended Solids	24	11	ND	21	8	ND	22	28	ND
Total Dissolved Solids	5170	5110	4360	5580	5500	5170	5280	5550	5190
Hardness CaCO3	2640	2620	2400	2860	2800	2530	2900	2840	2610
Nitrogen-Ammonia	0.9	ND	ND	1.3	ND	ND	1.2	ND	ND
BOD total	<6	<6	<6	ND	ND	ND	<6	<6	<2
Cyanide	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenolics	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acidity	51	21	7	43	13	3	52	25	8
Sulfate	2960	3080	2800	3130	3160	2790	3210	3430	3140
FILTERED SAMPLES									
Aluminum	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	0.99	1.00	0.74	1.16	1.05	0.91	1.12	1.1	0.86
Calcium	469	451	429	518	465	469	515	466	431
Copper	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	ND	0.12	ND	0.15	0.14	ND	0.31	0.23	0.13
Magnesium	301	311	277	344	327	315	334	330	288
Manganese	1.27	0.52	ND	1.52	0.54	ND	1.49	0.62	ND
Mercury	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	32.6	32.3	24.8	40.4	36.7	30.2	37.4	36.8	26.7
Sodium	469	490	439	475	490	477	477	468	415

PARAMETER	25-Aug-94			20-Sep-94						27-Oct-94		
mg/l	CRS	CRC	CRB	CRS		CRC		CRB		CRS	CRC	CRB
NON-FILTERED SAMPLES												
Boron	1.03	1.10	0.91	1.01	1.03	1.04	1.08	0.82	0.79	1.1	1.08	0.85
Aluminum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium	473	485	464	471	476	445	453	441	432	500	493	454
Copper	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	7.07	3.47	ND	8.78	8.84	15.6	3.9	ND	ND	8.73	4.48	0.12
Magnesium	301	341	313	297	303	309	320	295	287	316	344	303
Manganese	1.35	0.87	ND	1.43	1.45	1.41	1.13	0.07	0.07	1.45	1.14	0.21
Nickel	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	33.9	36.7	28.9	35.7	36.3	36.5	38.2	28.2	27	37	36.6	27.8
Sodium	421	474	448	437	440	441	461	426	406	455	486	428
Alkalinity-Bicarbonate	480	388	314	470		386		322		486	424	348
Alkalinity-Carbonate	ND	ND	ND	ND		ND		ND		ND	ND	ND
Alkalinity-Hydroxide	ND	ND	ND	ND		ND		ND		ND	ND	ND
Total Suspended Solids	18	17	ND	67		14		ND		20	29	ND
Total Dissolved Solids	2190	5330	5120	5490		5680		5240		5450	5520	5190
Hardness CaCO3	3000	2850	2730	2650		2950		2550		2850	2860	2740
Nitrogen-Ammonia	1.2	ND	ND	1.7		ND		ND		1.7	ND	ND
Acidity	60.4	36.2	20	72		22		12		59	31	2
Sulfate	3310	3330	3560	3260		3820		3070		4220	2650	2590
FILTERED SAMPLES						13-Oct-94						
Aluminum	ND	ND	ND	ND		ND		ND		ND	ND	ND
Boron	1.06	1.13	0.95	1.13		1.14		0.86		0.96	1.13	0.88
Calcium	474	487	483	503		483		470		432	473	469
Copper	ND	ND	ND	ND		ND		ND		ND	ND	ND
Iron	0.55	0.29	ND	ND		ND		ND		0.18	ND	ND
Magnesium	304	344	327	318		338		313		274	340	316
Manganese	1.33	0.56	ND	1.47		1.3		0.19		1.26	1.32	0.22
Nickel	ND	ND	ND	ND		ND		ND		ND	ND	ND
Potassium	34.5	37.6	30.2	37.5		39.2		29.2		32	38.1	29
Sodium	435	487	465	466		491		453		395	485	448
Iron (total)				8.99		3.5		0.14				
Total Suspended Solids				21		9		ND				

SUNNYSIDE COGENERATION ASSOCIATES
COARSE REFUSE SEEP MONITORING performed by EWP

PARAMETER	22-Nov-94			22-Dec-94			21-Jan-95		
mg/l	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
NON-FILTERED SAMPLES									
Boron	1.1	1.10	0.8	1.2	1.1	0.9	1.0	0.9	0.7
Iron	7.19	7.49	ND	7.53	6.45	ND	6.15	3.60	0.12
Manganese	1.46	1.24	0.24	1.49	1.22	0.21	1.37	0.82	0.17
Alkalinity-Bicarbonate	460	420	342	478	422	344	478	392	346
Alkalinity-Carbonate	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alkalinity-Hydroxide	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Suspended Solids	16	18	ND	19	16	ND	6	8	ND
Total Dissolved Solids	5430	5660	5200	5360	5530	5200	5480	5340	5030
Hardness CaCO3	2730	2710	2560	2740	2740	2650	2820	2800	2650
Nitrogen-Ammonia	1.5	0.6	ND	1.7	0.6	ND	1.7	ND	ND
Acidity	101	49.4	12.2	62.2	42.4	9	107	49	6
Sulfate	629	652	643	3240	3320	2860	3340	3480	3070
FILTERED SAMPLES									
Boron	1.2	1.1	0.8	1.2	1.1	0.8	1.0	0.8	0.7
Calcium	542	486	476	521	494	490	468	428	428
Iron	1.36	0.59	ND	1.05	0.19	ND	2.04	0.45	ND
Magnesium	345	349	311	333	357	324	293	297	280
Manganese	1.6	1.34	0.25	1.49	1.15	0.21	137	0.81	0.17
Potassium	40.3	36.5	27.2	39.6	37.7	29.5	32.6	27.2	23.3
Sodium	526	527	475	493	524	470	423	396	377

PARAMETER	28-Feb-95			22-Mar-95			27-Apr-95		
mg/l	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
NON-FILTERED SAMPLES									
Boron	1.3	1.0	0.9	1.1	0.9	0.7	1.2	1.1	0.8
Iron	8.26	4.19	ND	6.78	5.85	ND	7.67	6.44	ND
Manganese	1.64	0.78	0.11	1.38	0.955	0.071	1.52	1.18	0.042
Alkalinity-Bicarbonate	484	404	330	470	408	314	468	422	312
Alkalinity-Carbonate	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alkalinity-Hydroxide	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Suspended Solids	12	16	ND	16	9	ND	20	19	ND
Total Dissolved Solids	4950	5070	4780	5250	5090	4770	5440	5520	5120
Hardness CaCO3	2960	2760	2580	2760	2710	2620	2760	2780	2540
Nitrogen-Ammonia	1.7	ND	ND	1.7	0.6	ND	1.6	ND	ND
Acidity	63	35.8	5.0	78	52	12	93.1	48.2	10.2
Sulfate	3270	3220	2940	3200	3220	2910	3420	3250	2820
FILTERED SAMPLES									
Boron	1.4	1.1	0.9	1.2	1	0.7	1.1	1.1	0.8
Calcium	545	487	511	490	457	408	488	460	455
Iron	2.43	0.27	ND	1.1	ND	ND	1.16	ND	ND
Magnesium	350	341	342	310	317	265	330	0.337	305
Manganese	1.62	0.97	0.11	1.48	0.93	0.07	1.47	1.12	0.04
Potassium	41.2	33	29.5	36.1	31.8	23.1	33.9	33.1	23.1
Sodium	482	447	427	437	439	366	449	440	403

SUNNYSIDE COGENERATION ASSOCIATES
COARSE REFUSE SEEP MONITORING performed by EWP

PARAMETER	19-May-94			27-May-94			8-Jun-94			16-Jun-94		
	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
Flow gpm	8.5	29	48	12	36	52	8.5	40	48	7.1	29	40
Temperature C	25.50	15.92	15.55	25.80	17.79	16.77	24.40	16.97	15.50	26.97	19.06	19.62
pH	6.8	7.6	8.1	6.6	7.2	7.8	6.6	7.3	7.8	6.6	7.3	7.8
Spec. Cond mS	5.50	5.62	5.18	5.60	5.60	5.07	5.50	5.60	5.30	5.48	5.62	5.28
Disolved Oxygen mg/l	4.20	6.15	7.64	3.60	6.04	6.87	4.00	7.00	8.00	3.80	6.33	7.61

PARAMETER	23-Jun-94			30-Jun-94			8-Jul-94			14-Jul-94		
	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
Flow gpm	7.1	29	36	7.1	32	40	7.1	32	40	7.1	32	32
Temperature C	27.92	20.37	22.75	24.32	18.10	15.90	25.61	18.80	17.60	26.01	20.30	19.75
pH	6.6	7.3	7.8	6.7	7.3	7.9	6.8	7.4	8.06	6.6	7.4	7.98
Spec. Cond mS	5.5	5.60	5.29	5.50	5.66	5.40	5.50	5.67	5.40	5.50	5.68	5.40
Disolved Oxygen mg/l	2.6	5.50	6.40	1.10	5.60	7.30	1.20	5.70	7.40	1.90	5.70	7.02

PARAMETER	21-Jul-94			29-Jul-94			4-Aug-94			11-Aug-94		
	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
Flow gpm	7.1	29	26	7.1	32	48	8.5	32	36	7.1	32	48
Temperature C	26.6	21.2	22.6	25.3	19.8	17.5	25.5	20.6	18.3	25.2	19.7	18.5
pH	6.8	7.5	7.9	6.9	7.5	8.1	6.9	7.5	8.2	6.9	7.6	8.2
Spec. Cond mS	5.5	5.7	5.4	5.6	5.7	5.5	5.5	5.8	5.5	5.5	5.7	5.6
Disolved Oxygen mg/l	1.5	5.0	6.1	1.0	5.3	7.3	1.1	5.2	6.6	1.4	5.1	6.8

PARAMETER	19-Aug-94			26-Aug-94			31-Aug-94			9-Sep-94		
	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
Flow gpm	7.1	32	36	7.1	32	29	5.8	32	26	5.8		48
Temperature C	24.6	19.4	17.2	23.9	19.5	16.1	25.6	20.7	20.3	24.9	20.1	17.6
pH	6.9	7.6	8.2	6.9	7.6	8.2	6.9	7.6	8.2	7.0	7.5	8.3
Spec. Cond mS	5.5	5.7	5.6	5.5	5.7	5.6	5.5	5.8	5.6	5.5	5.2	5.5
Disolved Oxygen mg/l	2.0	5.8	6.9	1.5	5.3	6.9	1.2	5.2	7.4	1.5	4.9	7.2

PARAMETER	16-Sep-94			20-Sep-94			29-Sep-94			6-Oct-94		
	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
Flow gpm	5.8		40	8.5		40	7.1	32	40	8.5	32	40
Temperature C	23.3	18.0	14.2	23.9	19.8	16.0	24.3	18.7	15.0	22.8	16.7	12.7
pH	7.2	7.8	8.4	7.1	8.0	8.3	7.2	7.8	8.4	7.2	7.9	8.5
Spec. Cond mS	5.5	5.6	5.50	5.5	5.5	5.5	5.5	5.7	5.5	5.5	5.7	5.5
Disolved Oxygen mg/l	1.6	6.0	7.80	1.6	6.1	7.6	1.4	5.3	7.5	1.4	5.5	8.5

PARAMETER	13-Oct-94			21-Oct-94			28-Oct-94			4-Nov-94		
	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
Flow gpm	7.1	32	36	7.1	32.0	40	4.7	29.0	40	4.7	29.0	40
Temperature C	22.7	17.8	13.0	23.1	14.9	12.6	22.1	15.2	9.9	22.3	14.7	9.1
pH	7.3	7.9	8.5	7.3	8.3	8.6	7.4	7.9	8.6	7.3	7.9	8.5
Spec. Cond mS	5.5	5.7	5.50	5.5	5.7	5.4	5.0	5.7	5.5	5.4	5.7	5.4
Disolved Oxygen mg/l	1.6	5.4	7.70	1.5	7.0	8.3	1.6	5.8	8.4	1.5	5.9	8.1

PARAMETER	9-Nov-94			17-Nov-94			22-Nov-94			9-Dec-94		
	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
Flow gpm	4.7	29	40	4.7	26	32	4.7	23	29	2.1	21	32
Temperature C	22.4	14.4	9.0	22.4	14.0	9.1	18.1	11.0	7.0	17.9	11.3	5.4
pH	7.4	7.9	8.7	7.4	7.9	8.6	7.5	8.0	8.8	7.7	8.1	8.8
Spec. Cond mS	5.5	5.7	5.5	5.4	5.6	5.6	5.5	5.1	5.2	5.5	5.6	5.4
Disolved Oxygen mg/l	1.6	5.8	8.6	1.8	5.9	8.1	2.3	6.5	7.3	2.7	5.4	7.7

TABLE 2

Field Parameter Data

Monitoring Period: March, April, and May, 1994

Sunnyside Cogeneration Associates Facility

Sunnyside, Utah

DOGM Permit Boundary Water Quality Monitoring Plan

Monitoring Location	Location I.D.	March 31, 1994 Field Parameters					April 19, 1994 Field Parameters					May 31, 1994 Field Parameters				
		Temp. (C)	pH (s.u.)	SC (umhos)	Dissolved Oxygen (ug/l)	Flow Rate (gpm)	Temp. (C)	pH (s.u.)	SC (umhos)	Dissolved Oxygen (ug/l)	Flow Rate (gpm)	Temp. (C)	pH (s.u.)	SC (umhos)	Dissolved Oxygen (ug/l)	Flow Rate (gpm)
Icelander Creek	ICE-1	12.9	7.9	2830	6.0	90	17.2	8.23	2860	6.4	100	13.1	8.28	2257	9.9	300
Columbia Dugway Spring	F-2	13.6	8.01	1500	6.4	26	15.5	8.4	1800	8.6	36	12.5	8.16	1650	9.9	85
Coarse Refuse Seep Source	CRS	23.7	6.51	5400	1.4	100*	26.9	6.83	4550	3.2	10	23.6	6.64	4650	1.9	8.5
Coarse Refuse Seep Boundary	CRB	14.6	7.61	3500	6.5	120*	19.3	7.96	4890	7.4	38	14.1	7.73	4599	9.0	20
Draegerton Well	Well-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Coal Runoff Basin	Outfall 004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Rail Cut Pond	Outfall 007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Old Coarse Refuse Pond	Outfall 008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pasture Sediment Pond	Outfall 009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Coarse Refuse Toe Pond	Outfall 012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Borrow Area Pond	Outfall 016	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note:
NA indicates that data is not available due to lack of discharge.
NS indicates data is not available due to lack of sampling port.
Flow rates were measured using a calibrated container and stopwatch method, unless marked with an *.
Flow rates marked with an * indicate the flow rate was estimated due to a lack of an appropriate measuring location.

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TABLE 3

DOGM Quarterly Compliance Sampling Results
Sampling Date: April 19, 1994

Sunnyside Cogeneration Associates Facility

Sunnyside, Utah

Sample Location	Analytical Parameters															
	Metals (mg/l)													Inorganics		
	Aluminum Dissolved	Arsenic Dissolved	Boron Dissolved	Cadmium Dissolved	Copper Dissolved	Iron Dissolved	Iron Total	Lead Dissolved	Manganese Dissolved	Manganese Total	Molybdenum Dissolved	Selenium Dissolved	Zinc Dissolved	Electrical Conductivity	Oil & Grease	Sulfide as S
ICE-1	<1.0	<0.002	<1	<0.001	<0.2	<0.5	0.35	<0.002	<0.2	0.10	<0.5	<0.002	<0.2	2800	<1	NA
F-2	<1.0	<0.002	<1	<0.001	<0.2	<0.5	0.30	<0.002	<0.2	0.10	<0.5	<0.002	<0.2	2280	<1	NA
CRS	<1.0	<0.002	<1	<0.001	<0.2	4.63	11.0	<0.002	1.9	1.65	<0.5	<0.002	<0.2	5550	4	NA
CRB	<1.0	<0.002	<1	<0.001	<0.2	<0.5	0.01	<0.002	0.20	<0.10	<0.5	<0.002	<0.2	4960	<1	NA
WELL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.25	NA	NA	NA	NA	NA
004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sample Location	Analytical Parameters														
	Inorganics (mg/l)			Anions (mg/l)					Cations (mg/l)				Nutrients (mg/l)		
	Settleable Solids	Dissolved Solids	Suspended Solids	Bicarbonate Alkalinity	Carbonate Alkalinity	Total Alkalinity	Chloride as Cl	Sulfate as SO4	Calcium as Ca	Hardness as CaCO3	Magnesium as Mg	Sodium as Na	Ammonia as N	Nitrite + Nitrate as N	Phosphorous Total
ICE-1	<0.1	1860	71	443	11	382	60	985	108	854	142	294	0.08	0.32	0.02
F-2	<0.1	1430	7	553	11	472	56	644	97	712	114	274	<0.05	0.75	0.02
CRS	<0.1	4890	34	553	0	453	101	2960	558	2890	350	515	1.42	<0.05	0.27
CRB	<0.1	4620	10	380	0	311	134	2630	494	2666	309	450	<0.05	0.73	0.02
WELL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

A " < " sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this limit. were not quantifiable. These results should be considered non-detect.

ND = No Discharge

NA = Not Applicable

Nitrite + Nitrate as N reported due to sample holding time for Nitrite as N

File: N:\WEMPLE\SCA\EWP\0694T3.WK3

TABLE 3

DOGM Quarterly Compliance Sampling Results
Sampling Dates: January 13 and 14, 1994

Sunnyside Cogeneration Associates Facility

Sunnyside, Utah

Sample Location	Analytical Parameters															
	Metals (mg/l)													Inorganics		
	Aluminum Dissolved	Arsenic Dissolved	Boron Dissolved	Cadmium Dissolved	Copper Dissolved	Iron Dissolved	Iron Total	Lead Dissolved	Manganese Dissolved	Manganese Total	Molybdenum Dissolved	Selenium Dissolved	Zinc Dissolved	Electrical Conductivity	Oil & Grease	Sulfide as S
ICE-1	<0.5	<0.002	<0.5	<0.001	<0.10	<0.25	0.30	<0.002	<0.10	<0.10	<0.25	<0.002	<0.10	2260*	2	NA
ICE-2	<0.5	<0.002	<0.5	<0.001	<0.10	<0.25	0.35	<0.002	<0.10	<0.10	<0.25	<0.002	<0.10	2260*	<1	NA
F-2	<0.5	<0.002	<0.5	<0.001	<0.10	<0.25	0.30	<0.002	<0.10	0.10	<0.25	<0.002	<0.10	1830*	<1	NA
CRS	<0.5	0.005	1.0	<0.001	<0.10	12	21	<0.002	0.33	0.60	<0.25	<0.002	<0.10	4640*	<1	NA
CRB	<0.5	<0.002	0.7	<0.001	<0.10	<0.25	<0.25	<0.002	<0.20	<0.10	<0.25	<0.002	<0.10	4890*	<1	NA
WELL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sample Location	Analytical Parameters															
	Inorganics (mg/l)			Anions (mg/l)					Cations (mg/l)				Nutrients (mg/l)			
	Settleable Solids	Dissolved Solids	Suspended Solids	Bicarbonate Alkalinity	Carbonate Alkalinity	Total Alkalinity	Chloride as Cl	Sulfate as SO4	Calcium as Ca	Hardness as CaCO3	Magnesium as Mg	Sodium as Na	Ammonia as N	Nitrite as N	Nitrate as N	Phosphorous Total
ICE-1	<0.1	1780	11	519	0	425	59	943	110	850	140	298	0.13	<0.05	0.69	0.05
ICE-2	<0.1	1740	7	530	0	434	59	943	110	850	140	296	0.11	<0.05	0.71	0.05
F-2	<0.1	1390	<5	605	0	496	44	632	94	690	110	260	<0.05	<0.05	0.97	<0.02
CRS	0.4	4930	16	570	0	467	97	3180	560	2800	340	530	2.11	<0.05	0.22	0.76
CRB	<0.1	4320	<5	369	0	302	121	2780	490	2400	290	450	<0.05	<0.05	1.33	<0.02
WELL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

A " < " sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this limit. were not quantifiable. These results should be considered non-detect.

* Electrical conductivity values calculated from field data.

ND = No Discharge

NA = Not Applicable

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SUNNYSIDE COGENERATION ASSOCIATES
COARSE REFUSE SEEP MONITORING performed by EWP

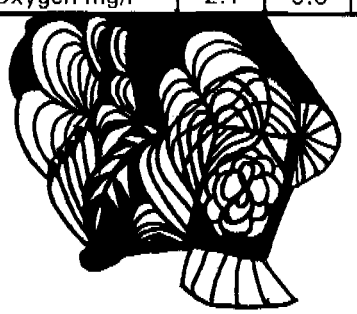
PARAMETER	15-Dec-94			22-Dec-94			6-Jan-95			12-Jan-95		
	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
Flow gpm	2.8	26	40	2.8	21	40	2.1	21	40	2.1	21	40
Temperature C	17.3	12.2	5.9	18.1	13.4	7.0	17.3	11.2	3.7	17.5	11.1	5.2
pH	7.7	8.1	8.9	7.6	8.0	8.9	7.8	8.0	9.1	7.8	8.1	8.9
Spec. Cond mS	3.0	5.5	5.4	5.5	4.5	5.3	5.4	5.6	5.3	5.5	5.4	5.4
Disolved Oxygen mg/l	2.8	4.9	7.5	2.8	5.6	7.6	2.7	5.6	9.0	2.6	5.0	8.0

PARAMETER	21-Jan-95			27-Jan-95			1-Feb-95			9-Feb-95		
	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
Flow gpm	2.1	21	40	2.1	26	40	2.1	32	40	2.1	36	43
Temperature C	17.6	11.3	6.0	17.3	11.2	5.8	18.1	11.7	5.2	17.1	11.8	5.7
pH	7.8	8.2	9.1	7.8	8.1	9	7.8	8.3	9.1	7.5	8.1	8.9
Spec. Cond mS	5.4	5.5	5.3	5.5	5.5	5.4	2.6	4.8	5.2	4.9	5.1	5.4
Disolved Oxygen mg/l	2.0	4.5	8.3	2.4	4.4	8.0	2.0	4.4	7.1	2.7	4.5	7.2

PARAMETER	23-Feb-95			28-Feb-95			1-Mar-95			9-Mar-95		
	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
Flow gpm	2.1	36	40	2.1	32	40	2.1	32	40	2.8	32	40
Temperature C	18.0	11.2	5.8	19.8	11.9	5.4	19.2	11.3	5.9	18.5	11.8	6.0
pH	7.9	8.0	9.0	8.1	8.3	8.8	8.1	8.0	8.7	7.8	8.1	8.8
Spec. Cond mS	5.1	5.5	5.4	5.6	5.2	5.1	5.4	5.6	5.3	5.0	5.5	5.2
Disolved Oxygen mg/l	2.5	4.8	8.0	2.1	5.1	7.8	2.6	4.9	8.1	2.7	5.6	7.8

PARAMETER	22-Mar-95			30-Mar-95			5-Apr-95			13-Apr-95		
	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
Flow gpm	2.1	21	29	2.1	26	29	1.5	26	29	1.5	26	29
Temperature C	18.8	12.1	7.1	18.2	11.8	7.8	18.1	11.7	7.9	18.0	11.9	8.4
pH	8.1	8.5	8.9	8.6	8.1	8.2	8.4	8.0	8.6	7.8	8.1	8.6
Spec. Cond mS	5.4	4.8	5.0	5	4.9	5.3	5.1	5.4	5.1	4.8	5.2	5.4
Disolved Oxygen mg/l	2.2	5.0	8.0	2.7	4.5	8.1	2.1	4.9	7.6	2.5	4.7	7.7

PARAMETER	20-Apr-95			27-Apr-95								
	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB	CRS	CRC	CRB
Flow gpm	1.0	29	32	1.0	32	32						
Temperature C	18.6	12.1	8.1	19.1	13.0	8.5						
pH	8.0	8.5	8.5	8.2	8.6	8.7						
Spec. Cond mS	5.1	4.8	5.2	5.4	5.0	5.3						
Disolved Oxygen mg/l	2.1	5.0	7.5	2.2	4.7	7.8						



CHEMTECH
ANALYTICAL LABORATORY

6100 S. STRATLER
MURRAY, UTAH 8419
PHONE: (801) 262-7299
FAX: (801) 262-7378

DATE: 1-15-93

TO: SRS, Inc.
P.O. Box 99
Sunnyside, Utah 84539

DATE SUBMITTED: 12-24-92

DATE SAMPLED: 12-22-92

DATE ANALYZED: 1-12-93

CERTIFICATE OF ANALYSIS

SAMPLE ID:	CRS	CRB
LAB:	U089131	U089132
PARAMETER		
Iron as Fe (T), mg/l	14	3.0

Joel Workman

Joel Workman

TABLE 2

Field Parameter Data

Monitoring Period: December, 1993, January, and February, 1994

Sunnyside Cogeneration Associates Facility

Sunnyside, Utah

DOGM Permit Boundary Water Quality Monitoring Plan

		December 9, 1993					January 13, 1994					February 28, 1994				
		Field Parameters					Field Parameters					Field Parameters				
Monitoring Location	Location I.D.	Temp. (C)	pH (s.u.)	SC (umhos)	Dissolved Oxygen (ug/l)	Flow Rate (gpm)	Temp. (C)	pH (s.u.)	SC (umhos)	Dissolved Oxygen (ug/l)	Flow Rate (gpm)	Temp. (C)	pH (s.u.)	SC (umhos)	Dissolved Oxygen (ug/l)	Flow Rate (gpm)
Icelander Creek	ICE-1	4.8	8.49	1800	10.3	300*	5.1	8.29	2220	6.4	200	8.9	8.16	1450	7.3	150
Columbia Dugway Spring	F-2	6	7.82	1800	12.7	150	5.6	8.51	1820	6.2	90	7.7	7.62	2180	6.9	35
Coarse Refuse Seep Source	CRS	23.2	6.93	4306	1.9	30*	21.2	7.08	4750	2.4	100*	36.5	6.74	4470	0.9	100*
Coarse Refuse Seep Boundary	CRB	5.9	7.94	3900	8.4	40*	5.0	8.17	3100	6.0	200*	15.6	7.90	4370	6.8	120*
Draegerton Well	Well-1	N.A.	N.A.	N.A.	N.A.	N.A.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Coal Runoff Basin	Outfall 004	3.4	8.24	2023	7.4	148	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Rail Cut Pond	Outfall 007	N.A.	N.A.	N.A.	N.A.	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Old Coarse Refuse Pond	Outfall 008	N.A.	N.A.	N.A.	N.A.	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pasture Sediment Pond	Outfall 009	N.A.	N.A.	N.A.	N.A.	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Coarse Refuse Toe Pond	Outfall 012	N.A.	N.A.	N.A.	N.A.	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Borrow Area Pond	Outfall 016	N.A.	N.A.	N.A.	N.A.	N.A.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note:
NA indicates that data is not available due to lack of discharge.
NS indicates data is not available due to lack of sampling port.
Flow rates were measured using a calibrated container and stopwatch method, unless marked with an *.
Flow rates marked with an * indicate the flow rate was estimated due to a lack of an appropriate measuring location.

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TABLE 2

Field Parameter Data

Monitoring Period: January, February and March, 1994

Sunnyside Cogeneration Associates Facility

Sunnyside, Utah

DOGM Permit Boundary Water Quality Monitoring Plan

		June 30, 1993					July 27, 1993					August 26, 1993				
		Field Parameters					Field Parameters					Field Parameters				
Monitoring Location	Location I.D.	Temp. (C)	pH (s.u.)	SC (umhos)	Dissolved Oxygen (ug/l)	Flow Rate (gpm)	Temp. (C)	pH (s.u.)	SC (umhos)	Dissolved Oxygen (ug/l)	Flow Rate (gpm)	Temp. (C)	pH (s.u.)	SC (umhos)	Dissolved Oxygen (ug/l)	Flow Rate (gpm)
Icelander Creek	ICE-1															
Columbia Dugway Spring	F-2															
Coarse Refuse Seep Source	CRS															
Coarse Refuse Seep Boundary	CRB															
Draegerton Well	Well-1	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
Coal Runoff Basin	Outfall 004															
Rail Cut Pond *	Outfall 007	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Old Coarse Refuse Pond	Outfall 008	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Pasture Sediment Pond	Outfall 009	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Coarse Refuse Toe Pond	Outfall 012	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Borrow Area Pond	Outfall 016	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Note:
N.A. indicates that data is not available due to lack of discharge.
N.S. indicates data is not available due to lack of sampling port.
Flow rates were measured using a calibrated container and stopwatch method, unless marked with an *.
Flow rates marked with an * indicate the flow rate was estimated due to a lack of an appropriate measuring location.

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TABLE 4

Sunnyside Cogeneration Associates Facility

Sunnyside, Utah

Quarterly Compliance Sampling Results June 1993 to December 1994

DOGM Permit Boundary Water Quality Monitoring Plan

Sample Location		Analytical Parameters															
		Metals (mg/l)													Inorganics (mg/l)		
		Aluminum Dissolved	Arsenic Dissolved	Boron Dissolved	Cadmium Dissolved	Copper Dissolved	Iron Dissolved	Iron Total	Lead Dissolved	Manganese Dissolved	Manganese Total	Molybdenum Dissolved	Selenium Dissolved	Zinc Dissolved	Electrical Conductivity	Oil & Grease	Sulfide as S
ICE-1	06/93	0.2	<0.002	0.3	<0.003	<0.02	<0.05	0.08	<0.01	<0.02	<0.02	<0.05	<0.002	<0.02	na	<1	<1
	10/93	0.1	<0.002	0.3	<0.001	<0.02	<0.05	<0.05	<0.002	<0.02	<0.02	<0.05	<0.002	<0.02	2410	<1	<1
	01/94	<0.5	<0.002	<0.5	<0.001	<0.10	<0.25	0.30	<0.002	<0.10	<0.10	<0.25	<0.002	<0.10	2260	2	na
	04/94	<1.0	<0.002	<1	<0.001	<0.2	<0.5	0.35	<0.002	<0.2	0.10	<0.5	<0.002	<0.2	2800	<1	na
	07/94	<0.1	<0.002	0.2	<0.001	<0.02	<0.05	0.07	<0.002	<0.02	<0.02	<0.05	<0.002	<0.02	2220	<1	na
	09/94	0.3	<0.002	0.2	<0.001	<0.02	<0.05	0.16	<0.002	<0.02	<0.02	<0.05	<0.002	<0.02	2350	<1	na
	12/94	0.2	<0.002	0.2	<0.001	<0.02	<0.05	0.26	<0.002	<0.04	<0.02	<0.05	0.003	<0.02	2500	<1	na
F-2	06/93	0.2	<0.002	0.3	<0.003	<0.02	<0.05	0.26	<0.01	<0.02	0.04	<0.05	<0.002	<0.02	na	<1	<1
	10/93	0.2	<0.002	0.3	<0.001	<0.02	<0.05	0.41	<0.002	0.04	0.06	<0.05	<0.002	1.02	2240	3	<1
	01/94	<0.5	<0.002	<0.5	<0.001	<0.10	<0.25	0.30	<0.002	<0.10	0.10	<0.25	<0.002	<0.10	1830	<1	na
	04/94	<1.0	<0.002	<1	<0.001	<0.2	<0.5	0.30	<0.002	<0.2	0.10	<0.5	<0.002	<0.2	2280	<1	na
	07/94	<0.1	<0.002	0.2	<0.001	<0.02	<0.05	0.54	<0.002	<0.02	<0.02	<0.05	<0.002	<0.02	2280	<1	na
	09/94	0.2	<0.002	0.2	<0.001	<0.02	<0.05	0.54	<0.002	<0.02	0.04	<0.05	<0.002	<0.02	2260	<1	na
	12/94	<0.1	<0.002	0.1	<0.001	<0.02	0.08	0.10	<0.002	<0.02	<0.02	<0.05	<0.002	<0.02	1300	<1	na
CRS	06/93	0.6	<0.002	1.0	<0.003	<0.02	<0.12	8.90	<0.01	1.75	1.50	<0.10	<0.002	0.08	na	<1	<1
	10/93	0.5	<0.002	1.1	<0.001	<0.02	6.30	47	<0.002	1.35	2.2	<0.05	<0.002	0.33	5310	<1	<1
	01/94	<0.5	0.005	1.0	<0.001	<0.10	12	21	<0.002	0.33	0.60	<0.25	<0.002	<0.10	4640	<1	na
	04/94	<1.0	<0.002	<1	<0.001	<0.2	4.63	11.0	<0.002	1.9	1.65	<0.5	<0.002	<0.2	5550	4	na
	07/94	0.1	0.002	1	<0.001	<0.02	8.4	9.6	<0.002	0.64	0.69	<0.05	<0.002	<0.02	5520	<1	na
	09/94	0.2	0.002	0.6	<0.001	<0.02	9.5	10.4	<0.002	1.08	1.56	<0.05	<0.002	<0.02	5280	<1	na
	12/94	0.2	<0.002	1.2	<0.001	<0.06	9.2	10.2	<0.002	1.38	1.75	<0.05	<0.002	<0.02	5410	<1	na
CRB	06/93	0.6	<0.002	0.7	<0.003	<0.02	<0.12	<0.12	<0.01	<0.02	<0.02	<0.10	<0.002	0.10	na	<1	<1
	10/93	0.5	<0.002	1.0	<0.001	<0.02	19.2	*<0.05	<0.002	1.35	*<0.02	<0.05	<0.002	0.35	4860	1	1
	01/94	<0.5	<0.002	0.7	<0.001	<0.10	<0.25	<0.25	<0.002	<0.20	<0.10	<0.25	<0.002	<0.10	4890	<1	na
	04/94	<1.0	<0.002	<1	<0.001	<0.2	<0.5	0.01	<0.002	0.20	<0.10	<0.5	<0.002	<0.2	4960	<1	na
	07/94	<0.1	<0.002	0.6	<0.001	<0.02	*<0.25	*<0.15	<0.002	*<0.10	*<0.06	0.07	<0.002	0.03	5160	<1	na
	09/94	0.3	<0.002	0.8	<0.001	<0.02	<0.25	<0.25	<0.002	*<0.10	*<0.06	<0.05	<0.002	<0.02	5460	<1	na
	12/94	0.3	<0.002	0.9	<0.001	<0.06	<0.15	0.18	<0.002	0.12	0.15	<0.05	<0.002	<0.02	5190	<1	na
WELL	06/93	<0.1	<0.002	0.2	<0.003	<0.02	<0.05	<0.0	<0.01	<0.02	<0.02	<0.05	<0.002	0.02	na	<1	6
	10/93	<0.1	<0.002	0.3	<0.001	<0.02	<0.05	0.14	<0.002	<0.02	<0.02	<0.05	<0.002	<0.02	2100	<1	<1
	01/94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	04/94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	07/94	<0.1	<0.002	0.1	<0.001	<0.02	<0.05	0.10	<0.002	<0.02	<0.02	<0.05	<0.002	<0.02	1830	2	nd
	09/94	0.2	<0.002	0.2	<0.001	<0.02	<0.05	0.10	<0.002	<0.02	0.03	<0.05	<0.002	<0.02	1520	<1	nd
	12/94	0.1	<0.002	0.2	<0.001	<0.02	0.28	0.30	<0.002	0.08	0.09	<0.05	0.004	<0.02	2280	<1	nd
004	06/93	nd	nd	nd	nd	nd	nd	0.7	nd	nd	nd	nd	nd	nd	nd	5.0	nd
	10/93	na	<0.002	na	<0.003	<0.02	na	0.33	<0.01	na	na	na	<0.002	0.08	na	<1	na
	01/94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	04/94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	07/94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	09/94	nd	nd	nd	nd	nd	nd	nd	[illegible]	nd	nd	nd	nd	nd	nd	nd	nd
	12/94	nd	nd	nd	nd	nd	nd	nd	[illegible]	nd	nd	nd	nd	nd	nd	nd	nd

TABLE 4 (continued)

Sample Location		Analytical Parameters															
		Inorganics (mg/l)			Anions (mg/l)					Cations (mg/l)				Nutrients (mg/l)			
		Settleable Solids	Dissolved Solids	Suspended Solids	Bicarbonate Alkalinity	Carbonate Alkalinity	Total Alkalinity	Chloride as Cl	Sulfate as SO4	Calcium as Ca	Hardness as CaCO3	Magnesium as Mg	Sodium as Na	Ammonia as N	Nitrite as N	Nitrate as N	Phosphorous Total
ICE-1	06/93	<0.1	1920	8	505	0	414	66	1060	126	944	153	318	0.31	<0.05	1.72	0.02
	10/93	<0.2	1600	<2	593	0	486	65	777	90	660	105	340	<0.05	<0.05	0.77	0.05
	01/94	<0.1	1780	11	519	0	425	59	943	110	850	140	298	0.13	<0.05	0.69	0.05
	04/94	<0.1	1860	71	443	11	382	60	985	108	854	142	294	0.08	na	0.32	0.02
	07/94	<0.1	1590	<4	541	11	463	62	782	96	759	126	288	<0.05	<0.05	0.48	0.03
	09/94	<0.1	1580	7	509	17	446	67	742	60	618	114	320	0.11	<0.05	0.05	0.02
	12/94	<0.1	1780	9	593	14	510	74	770	104	787	128	312	<0.05	<0.05	0.50	0.02
F-2	06/93	<0.1	1910	10	569	0	466	64	985	144	965	147	306	<0.05	0.06	1.54	0.02
	10/93	<0.2	1500	9	622	0	510	59	700	102	650	96	300	0.11	<0.05	0.88	0.06
	01/94	<0.1	1390	<5	605	0	496	44	632	94	690	110	260	<0.05	<0.05	0.97	<0.02
	04/94	<0.1	1430	7	553	11	472	56	644	97	712	114	274	<0.05	na	0.75	0.02
	07/94	<0.1	1500	<5	593	11	505	56	700	108	738	114	273	<0.05	<0.05	0.94	0.02
	09/94	<0.1	1540	8	601	6	502	60	690	96	697	111	256	<0.05	<0.05	0.48	<0.02
	12/94	<0.1	894	3	492	0	403	23	290	72	452	66	141	<0.05	<0.05	0.66	<0.02
CRS	06/93	0.2	5210	15	553	0	453	97	3380	570	2945	370	550	1.86	<0.05	0.38	0.23
	10/93	<0.2	5200	41	548	0	449	96	2930	558	2800	342	543	1.73	<0.05	0.33	0.68
	01/94	0.4	4930	16	570	0	467	97	3180	560	2800	340	530	2.11	<0.05	0.22	0.76
	04/94	<0.1	4890	34	553	0	453	101	2960	558	2890	350	515	1.42	na	<0.05	0.27
	07/94	<0.1	4910	14	559	0	458	105	3080	597	2980	363	501	1.26	<0.05	0.37	0.17
	09/94	<0.1	5410	25	608	0	498	106	2930	546	2630	309	471	1.33	<0.05	0.22	0.15
	12/94	<0.1	5300	19	608	0	498	101	2930	561	2710	318	525	1.58	<0.05	<0.05	0.14
CRB	06/93	<0.1	4610	<2	394	0	323	131	3010	513	2638	330	483	0.11	<0.05	1.34	<0.02
	10/93	<0.2	4700	<5	384	0	315	116	2710	550	2810	350	555	<0.05	<0.05	1.07	0.05
	01/94	<0.1	4320	<5	369	0	302	121	2780	490	2400	290	450	<0.05	<0.05	1.33	<0.02
	04/94	<0.1	4620	10	380	0	311	134	2630	494	2666	309	450	<0.05	na	0.73	0.02
	07/94	<0.1	4490	<5	398	0	326	166	2820	480	2470	310	475	<0.05	<0.05	0.44	0.04
	09/94	<0.1	5230	<5	405	0	332	213	2780	486	2460	303	450	<0.05	<0.05	0.39	0.02
	12/94	<0.1	5070	<1	440	0	361	197	2800	570	2780	330	507	0.07	<0.05	0.70	<0.02
WELL	06/93	<0.1	1250	<2	599	0	491	34	510	93	578	84	231	<0.05	<0.05	0.90	<0.02
	10/93	<0.2	1400	<2	599	0	491	47	604	99	590	84	276	<0.05	<0.05	1.21	0.05
	01/94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	04/94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	07/94	<0.1	1180	<5	593	0	486	33	479	78	515	78	7	<0.05	<0.05	0.85	<0.02
	09/94	<0.1	981	<5	463	0	379	30	412	81	511	75	144	<0.05	<0.05	0.8	<0.02
	12/94	<0.1	1690	<2	650	14	557	70	740	117	823	129	291	<0.05	<0.05	0.44	<0.02
004	06/93	nd	1180	61.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	10/93	na	1200	66	580	10	493	86	436	24	134	18	432	na	na	na	na
	01/94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	04/94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	07/94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	09/94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	12/94	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

N:\SCA\EWP\0295_T4.WK3

A < sign indicates the value reported was the practical quantitation limit for this sample using the method described. Concentrations of analyte, if present, below this were not quantifiable.

* – Higher detection limit reported due to interferences present in the sample.

na – not applicable

nd – no discharge

SUNNYSIDE COGENERATION ASSOCIATES

COARSE REFUSE SEEP MONITORING performed by Huntingdon

PARAMETER	30-Jun-93		27-Jul-94		26-Aug-94		2-Sep-93	
	CRS	CRB	CRS	CRB	CRS	CRB	CRS	CRB
Temperature C	32.00	26	28	21.00	25	18.5	28.00	20
pH	6.77	7.6	7.25	7.87	6.81	6.5	7.12	7.92
Spec. Cond umhos	4600	4300	3200	4600	2800	2450	4600	4150
Disolved Oxygen mg/l	6.20	8.1	2.4	5.00	3.4	5.4	1.90	4.9

PARAMETER	27-Oct-94		16-Nov-94		9-Dec-93		13-Jan-94	
	CRS	CRB	CRS	CRB	CRS	CRB	CRS	CRB
Temperature C	23.4	8.30	23.2	7.9	23.20	5.9	21.20	5.00
pH	6.98	7.5	6.86	7.1	6.93	7.94	7.08	8.17
Spec. Cond umhos	4700	3400	4850	3300	4310	3900	4750	3100
Disolved Oxygen mg/l	3.5	6.00	2.1	5.5	1.90	8.4	2.40	6.00

PARAMETER	28-Feb-94		31-Mar-94		19-Apr-94		31-May-94	
	CRS	CRB	CRS	CRB	CRS	CRB	CRS	CRB
Flow gpm					10	38	8.5	
Temperature C	36.5	15.6	23.70	14.60	26.90	19.30	23.60	14.1
pH	6.74	7.9	6.51	7.61	6.83	7.96	6.64	7.73
Spec. Cond umhos	4470	4370	5400	3500	4550	4890	4650	4600
Disolved Oxygen mg/l	0.9	6.8	1.40	6.50	3.20	7.40	1.90	9.00

PARAMETER	23-Jun-94	
	CRS	CRB
Flow gpm	8.5	40
Temperature C	37.20	20.90
pH	6.88	7.99
Spec. Cond umhos	5140	4950
Disolved Oxygen mg/l	1.50	7.20

PARAMETER	30-Jun-94		26-Oct-94		13-Jan-94		19-Apr-94	
mg/l	CRS	CRB	CRS	CRB	CRS	CRB	CRS	CRB
Aluminum (dissolved)	0.6	0.6	0.5	0.5	<0.5	<0.5	<1.0	<1.0
Arsenic (dissolved)	<0.002	<0.002	<0.002	<0.002	0.005	<0.002	<0.002	<0.002
Boron (dissolved)	1	0.7	1.1	1	1	0.7	<1	<1
Cadmium (dissolved)	<0.003	<0.03	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (dissolved)	<0.02	<0.02	<0.02	<0.02	<0.10	<0.10	<0.2	<0.2
Iron (dissolved)	<0.12	<0.12	6.3		12	<0.25	4.63	<0.5
Iron (total)	8.9	<0.12	47		21	<0.25	11	0.01
Lead(dissolved)	<0.01	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Manganese (dissolv)	1.75	<0.02	1.35		0.33	<0.20	1.9	0.2
Manganese (total)	1.5	<0.02	2.2		0.6	<0.10	1.65	<0.10
Molybdenum (dissolv)	<0.10	<0.10	<0.05	<0.05	<0.25	<0.25	<0.5	<0.5
Selenium (dissolved)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (dissolved)	0.08	0.1	0.33	0.35	<0.10	<0.10	<0.2	<0.2
Electrical Conductivity			5310	4860	4640	4890	5500	4960
Oil & Grease	<1	<1	<1	1	<1	<1	4	<1
Sulfide as S	<1	<1	<1	1	NA	NA	NA	NA
Total Settleable Solids	0.2	<0.1	<0.2	<0.2	0.4	<0.1	<0.1	<0.1
Total Dissolved Solids	5210	4610	5200	4700	4930	4320	4890	4620
Total Suspended Solids	15	<2	41	<5	16	<5	34	10
Alkalinity-Bicarbonate	553	394	548	384	570	369	553	380
Alkalinity-Carbonate	0	0	0	0	0	0	0	0
Alkalinity-total	453	323	449	315	467	302	453	311
Chloride as Cl	97	131	96	116	97	121	101	134
Sulfate as SO4	3380	3010	2930	2710	3180	2780	2960	2630
Calcium as Ca	570	513	558	550	560	490	558	494
Hardness CaCO3	2845	2638	2800	2810	2800	2400	2890	2666
Magnesium as Mg	370	330	342	350	340	290	350	309
Sodium as Na	550	483	543	555	530	450	515	450
Ammonia as N	1.86	0.11	1.73	<0.05	2.11	<0.05	1.42	<0.05
Nitrite as N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
Nitrate as N	0.38	1.34	0.68	0.05	0.22	1.33		
Phosphorous (Total)	0.23	<0.02	0.33	1.07	0.76	<0.02	0.27	0.02

SITE	DATE	TIME	BY	pH	DO	TEMP	COND	DEPTH	AREA	FLOW	NOTE
001	9/9/93	1054	CR	7.8	6.4	17.0	2300			480 GPM	
002A	9/9/93	1126	CR							NONE	
002B	9/9/93	1126	CR							NONE	
003	9/9/93	1345	CR							NONE	
00[illegible]	9/9/93	1337	CR							NONE	
010	9/9/93	1321	CR							NONE	
011	9/9/93	1250	CR							NONE	
013	9/9/93	1326	CR							NONE	
014	9/9/93	1329	CR							NONE	
015	9/9/93	1250	CR							NONE	
GT-1	9/9/93	102[illegible]	CR	7.9	9.0	8.5	590	2.11	34" x 3.5	780	
GT-2	9/9/93	1109	CR	7.9	7.9	13.5	1420	1.51	20" x 7.5"	950	
GT-3	9/9/93	1132	CR	8.0	7.6	12.0	1300	1.21	10" x 39"	1420	
GT-4	9/9/93	1232	CR	8.1	7.5	13.0	1270	4.53	3"	1000	
GR-1	9/9/93	1041	CR	8.1	7.9	12.0	810	—	—	<3 GPM	EST. (2)
BC-1	9/9/93	1123	CR							NONE	
BC-1	9/9/93	1143	CR							NONE	
BC-1	9/9/93	1125	CR							NONE	
U2C-1	9/9/93	1307	CR							NONE	
KC-1	9/9/93	0822	CR	7.9	7.4	10.5	2300	2.[illegible]	6.[illegible]	779	
CRB	9/9/93	0928	CR	7.2	6.1	13.0	5200	—	—		(1)
CC5	9/9/93	[illegible]2	CR	6.2	1.6	2[illegible]	5900	1.02	3" x 2.5"	24	
18th Lf. Inside Seal	9/7/93	11:30	PH	6.5/6.4	0.7	18°	2.50 mS	–	–	Valved 4" pipe	Sealed

(1) UNABLE TO MEAS. FLOW RATE DUE TO VEGETATIVE GROWTH
(2) TOO LOW TO OBTAIN GOOD SAMPLE

RECEIVED
MAY 27 1993
DIVISION OF
OIL GAS & MINING

SUNNYSIDE COAL COMPANY
SUNNYSIDE MINES
NPDES REPORTING
APRIL 93

APRIL 93

SAMPLE DATE	DISCHARGE POINT	FLOW GPM	TDS MG/L	FLOW GPD	TDS LB/DAY	AVG. FLOW GPD	MAX. FLOW GPD	AVG. TDS MG/L	MAX. TDS MG/L	AVG. TDS LB/DAY	MAX. TDS LB/DAY
4/7/93	001	418	1,630	601,920	8,180	601,920	601,920	1,630	1,630	8,180	8,180
4/22/93	001	418	1,630	601,920	8,180						
	002A			0	0	0	0	0	ERR	0	0
	002A			0	0						
	002B			0	0	0	0	0	ERR	0	0
	002B			0	0						
	003			0	0	0	0	0	ERR	0	0
	003			0	0						
	006			0	0	0	0	0	ERR	0	0
	006			0	0						
	010			0	0	0	0	0	ERR	0	0
	010			0	0						
	011			0	0	0	0	0	ERR	0	0
	011			0	0						
	013			0	0	0	0	0	ERR	0	0
	013			0	0						
	014			0	0	0	0	0	ERR	0	0
	014			0	0						
4/7/93	015	320	1,495	460,800	5,743	460,800	460,800	1,483	1,495	5,695	5,743
4/23/93	015	320	1,470	460,800	5,647						

TOTAL AVG. TDS LBS/DAY	TOTAL MAX. TDS LBS/DAY
13,875	13,923

ATTACHMENT I TDS LOADING WITHOUT SSSF (014) POND FIGURES INCLUDED

SUNNYSIDE COAL COMPANY
SUNNYSIDE MINES
NPDES REPORTING
APRIL 93

APRIL 93

SAMPLE DATE	DISCHARGE POINT	FLOW GPM	TDS MG/L	FLOW GPD	TDS LB/DAY	AVG. FLOW GPD	MAX. FLOW GPD	AVG. TDS MG/L	MAX. TDS MG/L	AVG. TDS LB/DAY	MAX. TDS LB/DAY
4/7/93	001	418	1,630	601,920	8,180	601,920	601,920	1,630	1,630	8,180	8,180
4/22/93	001	418	1,630	601,920	8,180						
	002A			0	0	0	0	0	ERR	0	0
	002A			0	0						
	002B			0	0	0	0	0	ERR	0	0
	002B			0	0						
	003			0	0	0	0	0	ERR	0	0
	003			0	0						
	006			0	0	0	0	0	ERR	0	0
	006			0	0						
	010			0	0	0	0	0	ERR	0	0
	010			0	0						
	011			0	0	0	0	0	ERR	0	0
	011			0	0						
	013			0	0	0	0	0	ERR	0	0
	013			0	0						
4/2/93	014	20	787	28,800	189	21,600	28,800	755	787	138	189
4/7/93	014	10	722	14,400	87						
4/7/93	015	320	1,495	460,800	5,743	460,800	460,800	1,483	1,495	5,695	5,743
4/23/93	015	320	1,470	460,800	5,647						

TOTAL AVG. TDS LBS/DAY	TOTAL MAX. TDS LBS/DAY
14,013	14,112

014 DECANTED ON 4/2/93 & 4/7/93

ATTACHMENT II TDS LOADING WITH SSSF (014) POND FIGURES INCLUDED

ACT/007/007
cc. Rick Smith
Tom Munson
Folder #7

MOUNTAIN STATES ANALYTICAL

RECEIVED
MAY 04 1989
DIVISION OF
OIL, GAS & MINING

ANALYTICAL REPORT

CLIENT: Oil, Gas, & Mining
3 Triad Center
Salt Lake City, UT 84180-1203

ATTN: Darin Worden

Date Samples Rec'd: 04/20/89
MSAI Group No.: 951
Sample Matrix: Aqueous
Report Date: 05/04/89
P.O. Number: P-93943
Project: DARIN W.

LAB NO.	SAMPLE DATE	SAMP TIME	SAMPLE DESCRIPTION	ANALYSES PERFORMED	RESULT
7473	04/18/89	0	002	ACID DIGEST Water	Complete ---
				pH, Aqueous	1.75 ---
				SOLIDS, Suspended (TSS)	8.0 mg/l
				SOLIDS, Dissolved (TDS)	2916 mg/l
				NITRATE Nitrogen	<.05 mg/l N
				PHOSPHORUS, Total	Insuf Samp ---
				OIL & GREASE, Aqueous	22.3 mg/l
				NICKEL, FAA	0.274 mg/l
				ZINC, FAA	0.063 mg/l
				NITRITE Nitrogen	<.05 mg/l N
7474	04/19/89	0	BELOW 002	ACID DIGEST Water	Complete ---
				pH, Aqueous	1.77 ---
				SOLIDS, Suspended (TSS)	<5.0 mg/l
				SOLIDS, Dissolved (TDS)	1816 mg/l
				HARDNESS	320 mg/l CaCO3
				PHOSPHORUS, Total	.11 mg/l P
				OIL & GREASE, Aqueous	2.4 mg/l
				NICKEL, FAA	0.298 mg/l
				ZINC, FAA	0.070 mg/l
				NITRITE Nitrogen	<.05 mg/l N

Respectfully submitted,

Glenn A. Sorensen

Glenn A. Sorensen, B.S.
Manager, Technical Operations

CHEMTECH
CHEMICAL AND BACTERIOLOGICAL ANALYSES

6100 S. STRATLER
MURRAY, UTAH 84107
(801) 262-7299

DATE: 5-19-89

TO: SRS, Inc.
P.O. Box 99
Sunnyside, UT 84539

DATE SUBMITTED: 5-9-89, Collected on 5-5-89

CERTIFICATE OF ANALYSIS

SAMPLE ID:	NPDES 002	INLINE 002	ABOVE 002	BELOW 002	PERMIT BOUNDARY GT-4
LAB #:	U041162	U041163	U041164	U041165	U041166
PARAMETER					
Oil & Grease, mg/l	4.71	22.9	13.8	3.53	8.25
TSS, mg/l	22	349	<1	8.4	2.8
TDS, mg/l	1,370	1,460	515	885	892

Rex Henderson

MOUNTAIN STATES ANALYTICAL

RECEIVED MAY 04 1989 DIVISION OF OIL, GAS & MINING

ANALYTICAL REPORT

CLIENT: Oil, Gas, & Mining
3 Triad Center
Salt Lake City, UT 84180-1203

ATTN: Darin Worden

Date Samples Rec'd: 04/20/89
MSAI Group No.: 952
Sample Matrix: Aqueous
Report Date: 05/04/89
P.O. Number: P-93943
Project: DARIN W.

LAB NO.	SAMPLE DATE	SAMP TIME	SAMPLE DESCRIPTION	ANALYSES PERFORMED	RESULT
7475	04/19/89	0	BELOW 015	SOLIDS, Suspended (TSS)	<5.0 mg/l
				SOLIDS, Dissolved (TDS)	984 mg/l
				OIL & GREASE, Aqueous	<2.0 mg/l
7476	04/19/89	0	EAST WATER TANK	SOLIDS, Suspended (TSS)	5.0 mg/l
				SOLIDS, Dissolved (TDS)	1480 mg/l
				OIL & GREASE, Aqueous	2.4 mg/l

Respectfully submitted,

Glenn A. Sorensen

Glenn A. Sorensen, B.S.
Manager, Technical Operations

CHEMTECH
CHEMICAL AND BACTERIOLOGICAL ANALYSES

6100 S. STRATLER
MURRAY, UTAH 84107
(801) 262-7299

1/2 mast

DATE: 4-21-89

TO: SRS, Inc.
P.O. Box 99
Sunnyside, UT 84539

DATE SUBMITTED: 4-7-89

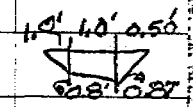
CERTIFICATE OF ANALYSIS

SAMPLE ID:	002 3-31-89	015 3-31-89	DATE ANALYSIS
LAB #:	U040227	U040228	
PARAMETER			
Oil & Grease, mg/l	5.41	6.58	4-10
TSS, mg/l	49	10	4-11
TDS, mg/l	1,430	1,620	4-11
Iron as Fe (T), mg/l	0.172	0.280	

Rex Henderson

Sample site	PH	COND	Temp C°	OX_2	time	DATE	By
GT-1	6.4	600	1°C	7.3	7:00 AM	11/30/87	
GT-2	7.76	500	1°C	7.5	7.15		
GT-3	8.58	700	1°C	7.5	7.30 A.		
GT 4	8.57	750	1°C	6	7.45		
001	No FLOW			—	7.15		
002	8.0	2000	12°C	—	7:25		
003	No FLOW						
004	8.25	1800	4°C	—	300 PM		
ICE-1 ICE WASH	8.51	1300	5°	9	8.00		
CRB	8.0	4400	5°		6.45		
005	NO FLOW						
WC-1							
BC-1							
PIC-1							
PAC-1							
N_2-1							
PC-1	NO FLOW						
Sediment Ponds	NO DISCHARGE						

Site	PH	COND	TEMP °C	OX_2	Time	DATE	BY	
Wellington PP								
SW-7	9.5	+5000	0°		8:40 A	11/17/87	BG	No Flow Pond
SW-2	6.17	2700	1°	6.5	900 A	11/17/87	BG	PRICE RIVER
SW-4	7.7	3700	7°	—	945 A	11/17/87	BG	Diversion Ditch near Topsoil Pile
SW-8	8.15	1900	4°	—	10:10 A	11/17/87	BG	Next PrepPlant Pond.
SW-1	6.2	2600	1°	—	1215 P	11/17/87	BG	Price River.
UNDERGROUND								
MAN SHAFT #1								
Dips Sump	7.5	1650	16°C	—	8:55 AM	11/24/87	BG	
TWIN SHAFT #1/11	7.9	800	13°C	—	9:45	11/24/87	BG	
18th Right INSIDE SEAL 111	7.1	1450	17°	—	9:30 AM	11/24/87	BG	
19th Right INSIDE SEAL 1111	7.4	1500	16°C	—	9:10 AM	11/24/87	BG	
MAN SHAFT 11111	7.8	700	5°C	—	10:00 AM	11/24/87	BG	
1# mine MAIN SLOPE Sump #1	7.5	2500	15°C	—	10:45 AM	11/30/87	BG.	
15th Right Sump	7.9	1400	13°C	—	11:10 AM	11/30/87	BG	
15th Rith Shaft Pile Canyon	7.6	1000	8°C	—	11:30 AM	11/30/87	BG.	
# 3 MAIN Sump.	7.4	2000	15°C	—		11/30/87	BG.	
#2 mine 12th Right Sump	7.5	1300	56°F	—		11/24/87		
WATER Canyon Sump	7.8	1700	62°F	—		11/24/87		

	PH	COND.	TEMP CENT.	OXE	TIME	DATE	BY	VEL.	AREA	CFS.	
POC-1		NO	FLOW		10:15A	10/31/87	BFA				
PAC-1		NO	FLOW		10:29A	"	"				
N2C-1 FLOW		NO	FLOW		11:05A	"	"				
ICE-1	FLOW		ONLY		11:45A	"	"	0.75			
015 M&G		NO	FLOW		9:40 A	10/31/87	BFA				
003		No	Flow			10/31/87					

Rose Canyon. Surface Water Monitoring Point were Dry 10/21/87

Sample SITE	PH	COND.	TEMP C.	Ox 2	Time	DATE	BY	Velocity	AREA	CFS
C.R. Boundary	7.52	4100	16 °c		12 35	9-29-87	K.P.H.	UNABLE TO DETERMINE Flow Bed To wide & vegatated		
PC-1		No Flow			10:50	9-29-87	K.P.H.			
Water well - 1 windmill										
water well - 2 ump										
CRB	7.4	4500	12°		10.45 AM	10-30-87	BGG			
WR-1	7.2	400	7°		9:45 AM	10-29-87	BGG			3GPM
WR-2	7.49	500	8°		10:15 AM	10-29-87	BGG			3 GPM
004	8.5	2300	11°		9:00 AM	10-30-87	BGG.			
001	NO FLOW				9:52A	10/31/87	BFA			
002	7.52	3350	15°c		10:06A	"	"	2.76		1.06' 0.30'
005	NO FLOW				10:56A	10/31/87	BFA			
GT-1	FLOW ONLY				9:24A	10/31/87	BFA	1.01		4.10' 0.42
GT-2	"	"			9:54A	"	"	3.72		1.70' 1.5d 3.0 0.25 0.95 1.10 1.2a
GT-3	"	"			10:24A	"	"	0.95		
GT-4	"	"			9:05A	"	"	2.62		2.95' 0.45
WC-1	7.27	1100	5°c		9:31A	"	"	1.27		1.02' 0.11
BC-1	NO FLOW				9:50	"	"			

Horse Canyon surface water monitoring points were Dry 9-29-87

SAMPLE SITE	PH.	COND.	TEMP C.	OX 2	TIME	DATE	BY	VELOCITY	AREA	CFS	
WR-1	6.66	400	9°C		4:15PM	9-28-87	K.R.H			1/4 gal/6min	Leaking Around Dam
WR-2	6.75	400	7°C		4:55PM	9-28-87	K.R.H.			2gpm	
001		NO	FLOW		10:13A.M.	9-29-87	K.R.H.				
002*	7.60	2300	15°C		10:27AM	9-29-87	KRH			150gpm	
003		NO	FLOW has valve on pipe			9-29-87	KRH				
004*	8.18	2000	15°C		1:15PM	9-29-87	KRH			APP. 3gpm	
005		NO	FLOW		12:50	9-29-87	K.R.H				
Sediment Ponds		NO	FLOW			9-29-87	K.R.H				
GT-1							KRH BFA	0.84	<46½"> 4¾"		
GT-2								3.42	3¼" 29"		
GT-3								0.54	0 24" 48" 94" 12" 5" 13½" 7½"		
GT-4								3.44	37" 3¾"		
WC-1	8.62	700	4°C		7:49AM	9-30 87	BFA K.R.H	0.63			
BC-1		NO FLOW			10:16AM	9-29-87	K.R.H.				
POC-1		NO FLOW			11:00AM	9-29-87	K.R.H.				
PAC-1		NO FLOW			11:03AM	9-29-87	K.R.H.				
NZC-1		NO FLOW			1:21AM	9-29-87	K.R.H.				
[illegible]-1								0.40	0 10" 15" 19" 8"		

SAMPLE SITE	PH.	COND.	TEMP. C°	OX²	TIME	DATE	BY	VEL	AREA	CFS
001	No Flow				11:10 AM	Aug 27	BG.			
002	7.16	2500	17.0		11:30 AM	AUG 27	BG			1.505 AM
003	No	Flow				AUG 27				
004	8.40	2400	15°		11:45	Aug 27	BG			
005	NO	FLOW				AU				
GT-1	8.70	500	15°	4.2	1:40 PM	8/31	BG BA	1.05	1-51"-1 55"	5.71
GT-2	8.89	5.00	14°	9.2	1:55 PM	8/31	BG BA	2.67	35 32	
GT-3	8.70	800	19°	6.2	2:05 AM	8/31	BG BA	.88	15 14 2 2 1.1"	
GT-4	8.92	8:50	19°	4.5	2:20 PM	8/31	BG BA	4.43	38 114 4"	
WC-1	No	FLOW				Aug 27-87	BG			
BC-1	No	FLOW				AUG 27-87	BG			
POC-1	No	Flow				Aug. 27-87	BG			
PAC-1	No	Flow				Aug. 27-87	BG			
NZ-C-1	No	Flow				Aug. 27-87	BG			
ICE-1	8.32	1400	18°C	9.3	11:30 AM	8/31/87	BG	2.15	4'	2"
CRB	7.47	4000	18°C	4.4	11:00	8/31/87	BG	N.P.		

SAMPLE SITE	PH	COND.	TEMP °C	OX²	TIME	DATE	BY	VEL	AREA	CFS
WR-1	7.81	360	8°		12:58 AM	Aug 26	BG			2 gpm
WR-2	7.21	450	7°		1:15 PM	AUG 26	BG			3 gpm
PC-1										
15 RT. SUMP	8.22	1400	49°		10:57A	8/28/87	BFA	NA		
POLE CAN. SHAFT	8.44	1800	53°		10:48A	"	"	NA		
Nº 1 SLOPE SUMP	7.77	3000	49°		10:05A	"	"	NA		
GW-1	6.71	3500	14°C		645 AM	8/31/87	BG	Well At Wellington.		
MAIN SHAFT Dip Sump	7.66	1700	16°		820 AM	8/31/87	BG			
TWIN SHAFT	7.99	900	14°		8:50 AM	8/31	BG			
MAIN SHAFT	8.35	1700	10°		9:00 AM	8/31	BG			
19th inside Seal	NOT ABLE TO TAKE SAMPLE AREA IS Flooded By MainShaft Dip Sump					8/31	BG			
18th Right inside Seal	7.01	1800	17°		8:35 AM	8/31	BG			
#3 Mine Sump	7.66	2400	15°		11:40 AM	8/31	BG			
#3 Mine Water Canyon	7.97	1700								
12th Right Sump.	7.59	1300								
#2 Mine										

HORSE CANYON Surface Water Monitoring Points were Dry 8/31/87

Sample Site	pH	COND	°C temp	OX²	TIME	DATE	BY	VEL	AREA	CFS	comment
003	No	Flow				7/28/87	BS				
004	8.11	1600	25°	8.5	1:30 pm	7/28/87	BS	—			Slow Rate of Flow Very
005	No	Flow				7/28/87	BS				
015	No	Flow				7/28/87	BS				
BC-1	No	Flow	—		11:00 AM	7/28/87	BS				
WC-1	8.09	800	13°C	11.5	10:15 AM	7/28/87	BS	.22	5" deep 1' wide	258 gpm	
POG-1	No	Flow				7/28/87	BS				
PAC-1	No	Flow			11:00 AM	7/28/87	BS				
N2C-1	No	Flow				7/28/87	BS				
CRB	7.62	4510	22°	4.8	2:25 pm	7/28/87	BS	2.86	1.5' 2"		
CRSource	6.62	5000	22°	9.5	200 pm	7/28/87	BS	—	—	—	
WR-1	6.9	500	7°C	4.5	8:25 AM	7/30/87	BS	—	—	39 gpm	
WZ-2	7.09	400	9°C	5.4	9:00 AM	7/30/87	BS	—	—	39 gpm	
RC-1		No Flow									

Horse Canyon ALL Surface Water Monitoring Points WERE DRY 7/30/87

Horse Canyon - NPDES Discharge Pt No Flow

Wellington Surface — DRY 7/30/87

SAMPLE SITE	PH	COND	TEMP C°	OX²	TIME	DATE	BY	VEL	AREA	CFS	
ICE-1	7.77	2,000	FAHF 16°C	54	08:25	6/30/87	RA.	0.46	29" 1'5" 8.5'6"		
CR-B	7.38	4,800	FOIF 18°C	57	08:54	"	"	—	—		SITE AREA COMPLETLY W/WATERCRESS
CR-S	6.59	5,000	F70F 21°C	66	09:19	"	"	1.10	18" 1'4" 1.5'		
001	No	Flow				6/30/87	BG				
002	No	Flow				"					
003	No	Flow				"					
004	No	Flow				"					
005	No	Flow				"					
015	No	Flow				"					
July											
GT-1		FLOW			10:00 AM	7/28/87	BG.	1.69	47 39"		
GT-2		Flow			10:50 AM	7/28/87	BG	2.89	3" 41" 2.5' 0"		
GT-3		FLOW			11:20 AM	7/28/87	BG	1.40	1 54" 8" 7"		
GT-4		Flow			11:35	"	BG	3.96 4.54	33" 8"		
ICE-1		Flow			3:00 PM	7/28/87	BG	.91	1 25 2'5"		
001	NO	DISCHARGE			10:45 AM	7-28-87	BG	water LEVEL		4' BELOW DISCHARGE LEVEL	
002	NO	DISCHARGE			11:00 AM	7-28-87	BG				

	PH	COND	Temp °C	Ox	Time	Date	By	vel	Area	CFS
GT-1	8.9	800	9°C	6.2	8:25 AM	6/15/87	BFA BG	2.03	58" 6"	22.26
GT-2	8.12	800	10°C	9.3	8:50A	"	BFA BG	4.01	75" 6½" 17"	
GT-3	8.21	800	11°C	3.2	9:20A	"	BFA BG	1.6	16/15.4/13.4 18" 8"	
GT 4	8.10	900	8°C	4.2	9:40 AM	"	BFA BG.	6.24	43" 7"	22.09
		UNDERGROUND WATER SAMPLES								
#1 mine main slope sump	7.54	2350	12°C		8:50 AM	6-30-87	BG 6/30/87			* 150 gpm
15th RIGHT Sump	7.90	1350	11°C		9:45 AM	6 30 87	BG"			* 120.00 gpm
15th Right	7.96	1000	10°C		10:15 AM	6-30-87	BG"			* 70 gpm
#3 mine sump main slope	7.55	1900	12C		1:00 PM	6 30-87	" "			* 40 gpm
#3 MINE WAYEZ CANYON DIPS	7.00	1850	62°F		1:00 PM	6/30/87	L. LOPEZ 6/30/87			30 gpm ?
12th RT SUMP #2 MINE	7.70	1500	54°F		2.00 PM ?	6/30/87	"			30-50 gpm ?
MAIN SHAFT DIPS SUMP	7.72	1700	18°C		7.35 AM	6/30/87	BG			* 100 gpm
14th INSIDE SEAL	7.45	1550	16°C		7:45 AM	6/30/87				* 80 gpm
18th Rt. INSIDE SEAL	7.10	1500	16°C		7:55 AM	6/30/87				* 5 gpm
TWIN SHAFT #1 Mine	7.82	750	12°C		8.00 AM	6/30/87				* 60-80 gpm
MAIN SHAFT	7.70	650	11°C		8:10 AM	6/30/87				* 50 gal/min
BC-1	No Flow						BG			

* Est -

	PH	COND	C° TEMP	OXYGEN	TIME	DATE	BY	VEL	AREA	CFS	REM
PAC-1	NO FLOW					5/11/87	BA CW			0	
NEC-1	"	"				"	"			0	
001	"	"				"	"			0	
003	"	"				"	"			0	
GT-1						5/29/87	B.F.A.	3.23	5.5W 0.9D 3.8	1506	gpm
" 2						"	"	4.17	1.0 5.3 0.5 6.65'W	1500	gpm
" 3						"	"	2.23	1.5-1.5-1.5 8'W	1580	gpm
" 4						"	"	5.82	0.65' 3.8'	1504	gpm
ICE-1	7.90	2700	16°C		11:40 AM	5/11/87	BA CW	.45 AVG	1.21 □'	0.54	29 5½" 6½" 5½"
005	NO FLOW					"	BA				
B-1	8.31	1150	18°C ~~20~~	6	2:15 PM	5/26/87	BG. B.F.A	1.73	12 2½ 3 1½		
WC-1		NO FLOW				6/9/87					
WR-1	6.82	500	7°C	7	8:40 AM	6/9/87	BG KH	3 gpm			
WR-2	7.19	590	6°C		9:10 AM	6/9/87	BG KH	3 gpm			
OH 36-1	7.5	972			1400	5/29/87	AM BG				
OH 86-2	7.2	1517			1245	5/29/87	AM BG				
PC-1	8.20	1900	9°C		7:50 AM	6/11/87	KH BG.	2-3 gpm			

	PH	COND.	Water temp	Time	Date	By	VEL	AREA	CFS	Depth
005		No Flow		2.15 P.M.	4/9/87	KH			No Flow	
001	No Flow				4-25-87	CWW			0	
003	No Flow				4-25-87	CWW			0	
RF-1	8.40 @ 25°C	1350	23°C	2:45pm	4-29-87	CWW BFA	8 sec/1 gal		7.5 gpm	
HC-1	7.46 @ 22°C	1900	22°C	3.05PM	"	"	3.3 sec/1 gal		18 gpm	
RS-2	7.40 @ 19°C	1500	8°C	3:45pm	"	"	4.0 sec/gal		15 gpm	
B-1	No Flow			4:20pm	"	"				
CR-B	7.60	+5000	18°C SITE 23°C SAMP	1:50PM	5/8/87	BFA				
CR-S	6.62	+5000	21°C SITE 19°C SAMP	2:10 "	"	"				
004	7.94	2600	20°C SITE 22°C SAMP	2:25 "	"	"	1.22	14" / 3"	250 gpm	
015	NO FLOW			2:55 "	"	"			0	
WC-1	8.20	725	9°C SITE & SAMP	11:05am	5-11-87	BFA CWW	2.57	14" / 1'2" 3' 2'	0.41	
BC-1	NO FLOW			11:20A	"	"			0	
FOC-1	"	"		"	"	"			0	
002	"	"	NOTE: LEVEL 15" BELOW OVER FLOW	"	"				0	

CHEMTECH

CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 12-1-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 10-6-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	002 9-29-87 @1027	004 9-29-87 @1315	CRB 9-29-87 @1233	DATE(TIME) ANALYSIS
LAB #:	U021695	U021696	U021697	
PARAMETER				
pH Units (lab)	7.75	7.86	7.45	10-7 @1030
Conductivity (lab), umhos/cm	2,120	2,690	4,990	10-15 @1345
Bicarbonate as HCO_3, mg/l	~~780~~	370	500	10-14 @1420
Carbonate as CO_3, mg/l	~~0~~	0	0	10-14 @1420
Chloride as Cl, mg/l	~~44.4~~	73.0	111	10-30 @1130
Sulfate as SO_4, mg/l	~~622~~	1,060	2,270	10-29 @1445
Calcium as Ca, mg/l	~~62.4~~	98.1	380	10-20 @0810
Magnesium as Mg, mg/l	~~37.2~~	42.6	210	10-20 @0810
Potassium as K, mg/l	7.3	10.4	33.8	10-20 @0810
Sodium as Na, mg/l	409	426	448	10-20 @0810
TDS, mg/l	1,530	1,720	4,890	10-20 @0800
Iron (T) as Fe, mg/l	0.27	0.22	4.34	10-18 @1420
Manganese (T) as Mn, mg/l	0.028	<.01	1.13	10-18 @1420
TSS, mg/l	3.0	23	70	10-12 @1430
Settleable Solids, ml/l	<.1	<.1	0.1	10-6 @1610
Hardness as $CaCO_3$, mg/l	~~271~~	360	2,440	10-28 @1215
Oil & Grease, mg/l	~~2.71~~	0.71	<.5	10-7 @1030

Rex Henderson

CHEMTECH

CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 10-6-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	WC-1 9-29-87 @0749	WR-1 9-29-87 @1655	WR-2 9-29-87 @1055	DATE(TIME) ANALYSIS
LAB #:	U021698	U021699	U021697	
PARAMETER				
OrthoPhosphate as PO_4-P, mg/l	--	0.014	<.01	10-7 @1450
Sulfide as S, mg/l	--	<.1	<.1	10-7 @1600
Aluminum (D) as Al, mg/l	--	<.1	<.1	10-18 @1420
Arsenic (D) as As, mg/l	--	<.01	<.01	10-18 @1420
Barium (D) as Ba, mg/l	--	<.01	<.01	10-18 @1420
Boron (D) as B, mg/l	--	<.05	<.05	10-12 @1400
Cadmium (D) as Cd, mg/l	--	<.01	<.01	10-18 @1420
Chromium (D) as Cr, mg/l	--	<.01	<.01	10-18 @1420
Copper (D) as Cu, mg/l	--	0.011	<.01	10-18 @1420
Lead (D) as Pb, mg/l	--	<.01	<.01	10-18 @1420
Manganese (D) as Mn, mg/l	--	<.01	<.01	10-18 @1420
Mercury (D) as Hg, mg/l	--	<.0002	<.0002	10-18 @1420
Molybdenum (D) as Mo, mg/l	--	<.01	<.01	10-18 @1420
Nickel (D) as Ni, mg/l	--	<.01	0.012	10-18 @1420
Selenium (D), as Se, mg/l	--	<.002	<.002	10-18 @1420
Zinc (D), as Zn, mg/l	--	<.01	<.01	10-18 @1420
Cation, meq/l	10.33	4.87	6.06	
Anion, meq/l	11.26	4.56	5.52	

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CHEMTECH

CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 12-1-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 10-6-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	WC-1 9-29-87 @0749	WR-1 9-29-87 @1655	WR-2 9-29-87 @1055	DATE(TIME) ANALYSIS
LAB #:	U021698	U021699	U021697	
PARAMETER				
pH Units (lab)	8.15	7.22	7.28	10-7 @1030
Conductivity (lab), umhos/cm	1,065	621	676	10-15 @1345
Bicarbonate as HCO_3, mg/l	~~380~~	253	304	10-14 @1420
Carbonate as CO_3, mg/l	0	0	0	10-14 @1420
Chloride as Cl, mg/l	13.9	6.0	6.4	10-30 @1130
Sulfate as SO_4, mg/l	223	11.50	17.2	10-29 @1445
Calcium as Ca, mg/l	~~61.3~~	35.9	58.2	10-20 @0810
Magnesium as Mg, mg/l	61.8	27.2	28.5	10-20 @0810
Potassium as K, mg/l	2.4	0.8	1.0	10-20 @0810
Sodium as Na, mg/l	48.8	18.9	18.2	10-20 @0810
TDS, mg/l	532	229	287	10-20 @0800
Iron (T) as Fe, mg/l	~~0.080~~	0.095	0.052	10-18 @1420
Manganese (T) as Mn, mg/l	~~<.01~~	--	--	10-18 @1420
TSS, mg/l	4.0	3.0	6.0	10-12 @1430
Settleable Solids, ml/l	<.1	<.1	<.1	10-6 @1610
Hardness as $CaCO_3$, mg/l	~~390~~	188	239	10-28 @1215
Hydroxide as OH, mg/l	--	0	0	10-14 @1420
Fluoride as F, mg/l	--	<.1	<.1	10-27 @0800
Ammonia as NH_3-N, mg/l	--	<.1	<.1	10-6 @1130
Nitrate as NO_3-N, mg/l	--	0.12	0.14	10-20 @1210
Nitrite as NO_2-N, mg/l	--	<.005	<.005	10-6 @1330

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SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 10-12-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 9-4-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	WATER CANYON DIPS 9-1-87	#3 DIPS 8-31-87	12 RT SUMP #2 MINE 9-1-87	DATE(TIME) ANALYSIS
LAB #:	U020886	U020887	U020888	
PARAMETER				
pH Units (lab)	7.46	8.03	8.07	9-5 @1200
Conductivity (lab), umhos/cm	1,670	2,620	2,340	9-17 @1200
Bicarbonate as HCO_3, mg/l	713	558	498	9-8 @1140
Carbonate as CO_3, mg/l	0	0	0	9-8 @1140
Chloride as Cl, mg/l	36.3	45.2	21.9	9-16 @1030
Sulfate as SO_4, mg/l	425	1,050	986	9-10 @1445
Calcium as Ca, mg/l	98.2	102	91.1	9-25 @1340
Magnesium as Mg, mg/l	35.8	60.2	66.7	9-25 @1340
Potassium as K, mg/l	10.7	8.9	10.9	9-25 @1340
Sodium as Na, mg/l	304	486	393	9-25 @1340
TDS, mg/l	1,130	2,030	1,840	9-[illegible]3 @0820
Iron (T) as Fe, mg/l	7.70	0.38	0.46	9-25 @1340
Manganese (T) as Mn, mg/l	0.34	0.035	0.118	9-25 @1340
Hardness as $CaCO_3$, mg/l	306	481	480	9-5 @0930
Cation, meq/l	21.6	31.4	27.4	
Anion, meq/l	21.3	32.3	29.3	

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DATE: 10-12-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 9-4-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	CRB-1 @1100 8-31-87	ICE-1 8-30-87	GT-1 @1340 8-31-87	DATE(TIME) ANALYSIS
LAB #:	U020880	U020881	U020882	
PARAMETER				
pH Units (lab)	7.96	8.17	8.43	9-5 @1200
Conductivity (lab), umhos/cm	4,910	1,710	554	9-17 @1200
Bicarbonate as HCO_3, mg/l	584	449	312	9-8 @1140
Carbonate as CO_3, mg/l	0	0	10.6	9-8 @1140
Chloride as Cl, mg/l	87.5	38.7	9.8	9-16 @1030
Sulfate as SO_4, mg/l	3,080	642	54	9-10 @1445
Calcium as Ca, mg/l	570	108	68.2	9-25 @1340
Magnesium as Mg, mg/l	290	120	24.8	9-25 @1340
Potassium as K, mg/l	34	2.4	0.6	9-25 @1340
Sodium as Na, mg/l	502	168	35.3	9-25 @1340
TDS, mg/l	5,060	1,320	402	9-18 @0820
TSS, mg/l	161	86	12	9-8 @1610
Settleable Solids, mg/l	0.3	0.1	<.1	9-4 @1030
Oil & Grease, mg/l	<.5	2.12	<.5	9-9 @1450
Iron (T) as Fe, mg/l	8.55	1.53	0.48	9-25 @1340
Manganese (T) as Mn, mg/l	1.96	0.055	<.01	9-25 @1340
Hardness as $CaCO_3$, mg/l	2,680	729	304	9-5 @0930
Cation, meq/l	75.0	22.6	6.99	
Anion, meq/l	76.2	21.8	6.87	

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SAMPLE SOURCE: Sunnyside, Submitted on 9-4-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	GT-2 @1355 8-31-87	GT-3 @1405 8-31-87	GT-4 @1420 8-31-87	DATE(TIME) ANALYSIS
LAB #:	U020883	U020884	U020885	
PARAMETER				
pH Units (lab)	8.35	8.31	8.46	9-5 @1200
Conductivity (lab), umhos/cm	551	1,060	1,150	9-17 @1200
Bicarbonate as HCO_3, mg/l	305	418	412	9-8 @1140
Carbonate as CO_3, mg/l	5.8	5.8	10.1	9-8 @1140
Chloride as Cl, mg/l	7.6	18.4	22.0	9-16 @1030
Sulfate as SO_4, mg/l	77	160	780	9-10 @1445
Calcium as Ca, mg/l	65.3	67.1	58.4	9-25 @1340
Magnesium as Mg, mg/l	24.3	10.7	42.1	9-25 @1340
Potassium as K, mg/l	0.6	1.4	1.5	9-25 @1340
Sodium as Na, mg/l	36.1	156	186	9-25 @1340
TDS, mg/l	340	750	810	9-18 @0820
TSS, mg/l	7.5	16	15	9-8 @1610
Settleable Solids, mg/l	<.1	<.1	<.1	9-4 @1030
Oil & Grease, mg/l	<.5	3.06	<.5	9-9 @1450
Iron (T) as Fe, mg/l	0.30	0.54	0.39	9-25 @1340
Manganese (T) as Mn, mg/l	0.015	0.030	<.01	9-25 @1340
Hardness as $CaCO_3$, mg/l	282	269	257	9-5 @0930
Cation, meq/l	6.84	11.05	14.51	
Anion, meq/l	7.01	10.89	13.54	

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(801) 483-1162

DATE: 10-12-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 9-4-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	MANSHAFT	TWIN SHAFTS	18 RT SEAL IN # 1 MINE	DATE(TIME) ANALYSIS
	8-31-87	8-31-87	8-31-87	
LAB #:	U020889	U020890	U020891	
PARAMETER				
pH Units (lab)	8.14	7.97	7.27	9-5 @1200
Conductivity (lab), umhos/cm	814	954	1,810	9-17 @1200
Bicarbonate as HCO_3, mg/l	375	387	742	9-8 @1140
Carbonate as CO_3, mg/l	0	0	0	9-8 @1140
Chloride as Cl, mg/l	10.7	11.3	32.4	9-16 @1030
Sulfate as SO_4, mg/l	103	268	482	9-10 @1445
Calcium as Ca, mg/l	83.4	101	83.6	9-25 @1340
Magnesium as Mg, mg/l	28.3	67.2	67.8	9-25 @1340
Potassium as K, mg/l	2.3	3.5	8.9	9-25 @1340
Sodium as Na, mg/l	58.2	69.4	282	9-25 @1340
TDS, mg/l	560	683	1,350	9-18 @0820
Iron (T) as Fe, mg/l	0.24	2.91	1.64	9-25 @1340
Manganese (T) as Mn, mg/l	<.01	0.055	0.185	9-25 @1340
Hardness as $CaCO_3$, mg/l	389	446	461	9-5 @0930
Cation, meq/l	9.08	13.68	22.24	
Anion, meq/l	8.59	12.24	23.12	

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TO: Kaiser Coal Corp.
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SAMPLE SOURCE: Sunnyside, Submitted on 9-2-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	86-1 8-30-87	86-2 8-30-87	DATE(TIME) ANALYSIS
LAB #:	U020817	U020818	
PARAMETER			
Iron (T) as Fe, mg/l	2.89	0.36	9-25 @1340
Aluminum (D) as Al, mg/l	<.1	<.1	9-25 @1340
Arsenic (D) as As, mg/l	<.01	<.01	9-25 @1340
Barium (D) as Ba, mg/l	<.01	<.01	9-25 @1340
Boron (D) as B, mg/l	0.19	0.32	9-9 @0930
Cadmium (D) as Cd, mg/l	<.01	<.01	9-25 @1340
Chromium (D) as Cr, mg/l	<.01	<.01	9-25 @1340
Copper (D) as Cu, mg/l	<.01	<.01	9-25 @1340
Lead (D) as Pb, mg/l	<.01	<.01	9-25 @1340
Manganese (D) as Mn, mg/l	<.01	<.01	9-25 @1340
Mercury (D) as Hg, mg/l	<.0002	<.0002	9-25 @1340
Molybdenum (D) as Mo, mg/l	<.1	<.1	9-25 @1340
Nickel (D) as Ni, mg/l	<.01	<.01	9-25 @1340
Selenium (D), as Se, mg/l	<.002	<.002	9-25 @1340
Zinc (D), as Zn, mg/l	0.046	<.01	9-25 @1340
Fluoride as F, mg/l	0.66	1.12	9-8 @1130
Cation, meq/l	10.4	26.6	
Anion, meq/l	10.8	27.4	

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

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SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 10-12-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 9-2-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	86-1 8-30-87	86-2 8-30-87	DATE(TIME) ANALYSIS
LAB #:	U020817	U020818	
PARAMETER			
pH Units (lab)	8.17	8.13	9-2 @1630
Conductivity (lab), umhos/cm	897	2,140	9-4 @1130
Bicarbonate as HCO_3, mg/l	413	622	9-3 @0900
Carbonate as CO_3, mg/l	0	0	9-3 @0900
Chloride as Cl, mg/l	10.3	31.3	9-16 @1030
Sulfate as SO_4, mg/l	178	782	9-12 @0900
Calcium as Ca, mg/l	65	88.4	9-25 @1340
Magnesium as Mg, mg/l	55.4	115	9-25 @1340
Potassium as K, mg/l	3.1	8.7	9-25 @1340
Sodium as Na, mg/l	58	285	9-25 @1340
TDS, mg/l	547	1,690	9-18 @0820
Hardness as $CaCO_3$, mg/l	437	739	9-5 @0930
Sulfide as S, mg/l	<.1	<.1	9-2 @0900
OrthoPhosphate as PO_4-P, mg/l	<.01	<.01	9-3 @1045
Ammonia as NH_3-N, mg/l	0.21	1.16	9-9 @1020
Nitrate as NO_3-N, mg/l	1.92	0.18	9-5 @0830
Nitrite as NO_2-N, mg/l	0.010	0.007	9-3 @1400

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DATE: 10-12-87

TO: Kaiser Coal Corp.
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Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 9-2-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	POLE CANYON SHAFT 8-28-87	#1 SLOPE SUMP 8-28-87	15 RT SUMP 8-28-87	DATE(TIME) ANALYSIS
LAB #:	U020819	U020820	U020821	
PARAMETER				
pH Units (lab)	8.32	8.00	8.31	9-2 @1630
Conductivity (lab), umhos/cm	1,230	2,900	1,710	9-4 @1130
Bicarbonate as HCO_3, mg/l	418	597	601	9-3 @0900
Carbonate as CO_3, mg/l	9.3	0	11.0	9-3 @0900
Chloride as Cl, mg/l	21.8	85.1	23.1	9-16 @1030
Sulfate as SO_4, mg/l	356	1,160	458	9-12 @0900
Calcium as Ca, mg/l	81.7	118	60.8	9-25 @1340
Magnesium as Mg, mg/l	70.8	47.2	39.8	9-25 @1340
Potassium as K, mg/l	4.2	9.8	4.4	9-25 @1340
Sodium as Na, mg/l	128	536	339	9-25 @1340
TDS, mg/l	833	2,140	1,180	9-18 @0820
Hardness as $CaCO_3$, mg/l	406	487	256	9-5 @0930
Fluoride as F, mg/l	0.68	1.81	1.49	9-8 @1130
Manganese (T) as Mn, mg/l	0.028	0.120	0.025	9-25 @1340
Cation, meq/l	15.6	33.3	21.2	
Anion, meq/l	15.2	36.4	20.5	

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DATE: 9-2-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 8-31-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	002 @1130 8-27-87	004 @1145 8-27-87	DATE(TIME) ANALYSIS
LAB #:	U020736	U020737	
PARAMETER			
pH Units (lab)	7.89	~~8.08~~	8-31 @1115
Conductivity (lab), umhos/cm	2,110	~~2,080~~	9-2 @1000
Bicarbonate as HCO_3, mg/l	~~787~~	317	8-31 @1400
Carbonate as CO_3, mg/l	~~0~~	0	8-31 @1400
Chloride as Cl, mg/l	~~41~~	53	9-2 @0930
Sulfate as SO_4, mg/l	~~566~~	~~970~~	9-1 @1330
Calcium as Ca, mg/l	~~32.4~~	~~79.8~~	9-14 @1230
Magnesium as Mg, mg/l	~~44.2~~	~~44.1~~	9-14 @1230
Potassium as K, mg/l	~~7.4~~	~~8.9~~	9-14 @1230
Sodium as Na, mg/l	~~408~~	~~372~~	9-14 @1230
TDS, mg/l	~~1,490~~	1,690	9-1 @1015
TSS, mg/l	~~14~~	16	9-2 @1700
Settleable Solids, ml/l	~~<.1~~	<.1	8-31 @1015
Oil & Grease, mg/l	~~2.12~~	~~<.5~~	9-3 @1705
Iron (T) as Fe, mg/l	~~0.308~~	0.170	9-19 @0910
Manganese (T) as Mn, mg/l	~~<.01~~	<.01	9-19 @0910
Hardness as $CaCO_2$, mg/l	~~259~~	~~375~~	9-5 @0930
Cations, meq/l	~~23.2~~	24.0	
Anions, meq/l	~~25.8~~	26.9	

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DATE: 9-2-87

TO: Kaiser Coal Corp.
P.O. Box 10
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SAMPLE SOURCE: Sunnyside, Submitted on 8-31-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	WR-1 @1258 8-26-87	WR-2 @1315 8-26-87	DATE(TIME) ANALYSIS
LAB #:	U020738	U020739	
PARAMETER			
pH Units (lab)	7.47	7.50	8-31 @1115
Conductivity (lab), umhos/cm	384	456	9-2 @1000
Bicarbonate as HCO_3, mg/l	253	298	8-31 @1400
Carbonate as CO_3, mg/l	0	0	8-31 @1400
Chloride as Cl, mg/l	5.6	6.0	9-2 @0930
Sulfate as SO_4, mg/l	25	31	9-1 @1330
Calcium as Ca, mg/l	34.8	51.2	9-14 @1230
Magnesium as Mg, mg/l	24.8	27.9	9-14 @1230
Potassium as K, mg/l	0.8	1.4	9-14 @1230
Sodium as Na, mg/l	17.2	15.8	9-14 @1230
TDS, mg/l	267	327	9-1 @1015
TSS, mg/l	2.0	3.2	9-2 @1700
Settleable Solids, ml/l	<.1	<.1	8-31 @1015
Iron (T) as Fe, mg/l	0.082	0.170	9-19 @0910
Hardness as $CaCO_2$, mg/l	185	233	9-5 @0930
Sulfide as S, mg/l	<.1	<.1	8-31 @1050
OrthoPhosphate as PO_4-P, mg/l	0.012	<.01	9-3 @1400
Fluoride as F, mg/l	0.26	0.23	9-8 @1130
Hydroxide as OH, mg/l	0	0	8-31 @1400
Total Phosphate as PO_4-P, mg/l	0.018	0.018	9-3 @1330
Ammonia as NH_3-N, mg/l	0.83	0.66	8-31 @1150
Nitrate as NO_3-N, mg/l	1.10	0.14	8-31 @1330
Nitrite as NO_2-N, mg/l	<.005	0.007	8-31 @1500

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CERTIFICATE OF ANALYSIS

SAMPLE ID:	WR-1 @1258	WR-2 @1315	DATE OF ANALYSIS
LAB #:	U020738	U020739	
PARAMETER			
Aluminum (D) as Al, mg/l	<.1	<.1	9-19 @0910
Arsenic (D) as As, mg/l	<.01	<.01	9-19 @0910
Barium (D) as Ba, mg/l	<.01	<.01	9-19 @0910
Boron (D) as B, mg/l	0.18	0.16	9-9 @0930
Cadmium (D) as Cd, mg/l	<.01	<.01	9-9 @0930
Chromium (D) as Cr, mg/l	<.01	<.01	9-9 @0930
Copper (D) as Cu, mg/l	<.01	<.01	9-9 @0930
Lead (D) as Pb, mg/l	<.01	<.01	9-9 @0930
Manganese (D) as Mn, mg/l	<.01	<.01	9-9 @0930
Mercury (D) as Hg, mg/l	<.0002	<.0002	9-9 @0930
Molybdenum (D) as Mo, mg/l	<.01	<.01	9-9 @0930
Nickel (D) as Ni, mg/l	<.01	<.01	9-9 @0930
Selenium (D), as Se, mg/l	<.002	<.002	9-9 @0930
Zinc (D), as Zn, mg/l	<.01	<.01	9-9 @0930
Cations, meq/l	4.61	5.61	
Anions, meq/l	4.85	5.71	

Rex Henderson

Rex Henderson

CHEMTECH

CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 8-25-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 8-3-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	~~004~~ July	WC-1	DATE(TIME) ANALYSIS	
LAB #:	U020177	U020178		
PARAMETER				
pH Units (lab)	~~8.23~~	8.30	8-3	@1050
Bicarbonate as HCO_3, mg/l	~~141~~	~~336~~	8-4	@1330
Carbonate as CO_3, mg/l	~~0~~	3.7	8-4	@1330
Chloride as Cl, mg/l	~~32.5~~	~~10.5~~	8-6	@1500
Hardness as $CaCO_3$, mg/l	469	354	8-4	@1530
Magnesium as Mg, mg/l	~~47.6~~	~~60.2~~	8-21	@1045
Potassium as K, mg/l	~~6.2~~	~~2.0~~	8-21	@1045
Calcium as Ca, mg/l	~~125~~	64.2	8-21	@1045
Sodium as Na, mg/l	~~154~~	~~41.2~~	8-21	@1045
Sulfate as SO_4, mg/l	~~696~~	231	8-7	@1030
TDS, mg/l	1,140	487	8-5	@1120
TSS, mg/l	10	493	8-6	@1350
Settleable Solids, ml/l	<.1	0.4	8-3	@1200
Iron (D) as Fe, mg/l	~~<.01~~	0.11	8-21	@0910
Manganese (D) as Mn, mg/l	~~0.042~~	<.01	8-21	@0910
Hydroxide as OH, mg/l	0	0	8-4	@1330
Oil & Grease, mg/l	0.20	--	8-3	@1630

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 8-25-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 8-3-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	CRB	CRS	DATE(TIME) ANALYSIS
LAB #:	U020175	U020176	
PARAMETER			
pH Units (lab)	7.63	7.66	8-3 @1050
Bicarbonate as HCO_3, mg/l	583	614	8-4 @1330
Carbonate as CO_3, mg/l	0	0	8-4 @1330
Chloride as Cl, mg/l	88.1	79.6	8-6 @1500
Hardness as $CaCO_3$, mg/l	2,520	2,490	8-4 @1530
Magnesium as Mg, mg/l	328	309	8-21 @1045
Potassium as K, mg/l	24.8	25.7	8-21 @1045
Calcium as Ca, mg/l	420	390	8-21 @1045
Sodium as Na, mg/l	440	410	8-21 @1045
Sulfate as SO_4, mg/l	2,710	2,460	8-7 @1030
TDS, mg/l	4,950	4,760	8-5 @1120
TSS, mg/l	12	15	8-6 @1350
Settleable Solids, ml/l	<.1	<.1	8-3 @1200
Iron (D) as Fe, mg/l	<.01	0.20	8-21 @0910
Manganese (D) as Mn, mg/l	<.01	<.01	8-21 @0910
Hydroxide as OH, mg/l	0	0	8-4 @1330
Oil & Grease, mg/l	0.50	1.40	8-3 @1630

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

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OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 8-25-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 8-3-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	WR-1	WR-2	DATE(TIME) ANALYSIS	
LAB #:	U020179	U020180		
PARAMETER				
pH Units (lab)	7.54	7.72	8-3	@1050
Bicarbonate as HCO_3, mg/l	257	305	8-4	@1330
Carbonate as CO_3, mg/l	0	0	8-4	@1330
Chloride as Cl, mg/l	5.6	8.67	8-6	@1500
Hardness as $CaCO_3$, mg/l	153	206	8-4	@1530
Magnesium as Mg, mg/l	26.4	28.3	8-21	@1045
Potassium as K, mg/l	0.7	0.8	8-21	@1045
Calcium as Ca, mg/l	37.9	45.9	8-21	@1045
Sodium as Na, mg/l	17.3	17.8	8-21	@1045
Sulfate as SO_4, mg/l	21	27	8-7	@1030
TDS, mg/l	253	298	8-5	@1120
Iron (D) as Fe, mg/l	<.01	<.01	8-21	@0910
Manganese (D) as Mn, mg/l	<.01	<.01	8-21	@0910
Fluoride as F, mg/l	0.21	0.26	8-5	@1500
Sulfide as S, mg/l	<.1	<.1	8-3	@1310
Ammonia as NH_3-N, mg/l	0.11	<.1	8-5	@1230
Nitrate as NO_3-N, mg/l	0.54	0.30	8-5	@1130
Nitrite as NO_2-N, mg/l	<.005	<.005	8-3	@1345
Ortho Phosphate as PO_4-P, mg/l	<.01	<.01	8-3	@1430
Hydroxide as OH, mg/l	0	0	8-4	@1330

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 8-3-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	WR-1	WR-2	DATE OF ANALYSIS
LAB #:	U020179	U020180	
PARAMETER			
Iron (T) as Fe, mg/l	0.29	0.22	8-21 @0910
Aluminum (D) as Al, mg/l	<.01	<.01	8-21 @0910
Arsenic (D) as As, mg/l	<.01	<.01	8-21 @0910
Barium (D) as Ba, mg/l	<.01	<.01	8-21 @0910
Boron (D) as B, mg/l	0.045	0.098	8-4 @1000
Cadmium (D) as Cd, mg/l	<.01	<.01	8-21 @0910
Chromium (D) as Cr, mg/l	<.01	<.01	8-21 @0910
Copper (D) as Cu, mg/l	<.01	<.01	8-21 @0910
Iron (D) as Fe, mg/l	<.01	<.01	8-21 @0910
Lead (D) as Pb, mg/l	<.01	<.01	8-21 @0910
Mercury (D) as Hg, mg/l	<.0002	<.0002	8-21 @0910
Molybdenum (D) as Mo, mg/l	<.01	<.01	8-21 @0910
Nickel (D) as Ni, mg/l	<.01	<.01	8-21 @0910
Selenium (D), as Se, mg/l	<.002	<.002	8-21 @0910
Zinc (D), as Zn, mg/l	<.01	<.01	8-21 @0910
Cation, meq/l	4.8	5.4	
Anion, meq/l	4.8	5.8	

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

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OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 7-3-87

For [illegible] Coal Corp.
P.O. Box [illegible]
[illegible], UT 84539

SAMPLE LOCATION: Sunnyside Mine, Submitted on 7-3-87

CERTIFICATE OF ANALYSIS

SAMPLE ID.	15th R. Sump @0945	Water Canyon Dips @1300	DATE(TIME) ANALYSIS
LAB #:	U019661	U019662	
PARAMETER			
pH Units plus	8.33	7.93	7-3 @1100
Conductivity (lab), umhos/cm	1920	1780	7-9 @0830
Bicarbonate as HCO_3, mg/l	580	537	7-8 @1100
Carbonate as CO_3, mg/l	11.4	0	7-8 @1100
Chloride as Cl, mg/l	24.7	24.3	7-8 @1410
Sulfate as SO_4, mg/l	496	551	7-14 @0915
Calcium as Ca, mg/l	45	88	7-21 @1020
Magnesium as Mg, mg/l	58	49	7-21 @1020
Potassium as K, mg/l	6.9	10.5	7-21 @1020
Sodium as Na, mg/l	306	287	7-21 @1020
TDS, mg/l	1720	1220	7-7 @1210
Iron as Fe, mg/l	1.74	9.72	7-21 @1430
Manganese as Mn, mg/l	0.058	0.64	7-21 @1430
Total hardness as $CaCO_3$, mg/l	278	309	7-13 @1030
Cation, meq/l	20.5	21.2	
Anion, meq/l	20.9	20.9	

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 7-3-87

[illegible] Coal Corp.
[illegible] Box 10
[illegible] Side, UT 84539

SAMPLE SOURCE: Sunnyside Mine, Submitted on 7-3-87

CERTIFICATE OF ANALYSIS

SAMPLE ID.	18 L Seal inside #1 Mine @0755	19 L Seal inside #1 Mine @0745	#1 Slope Sump @0850	DATE(TIME) ANALYSIS
LAB #:	U019655	U019656	U019657	
PARAMETER				
pH Units (lab)	8.63	8.80	8.58	7-3 @1100
Conductivity (lab), umhos/cm	1820	2070	3060	7-9 @0830
Total bicarb as HCO_3, mg/l	699	368	584	7-8 @1100
Total carb as CO_3, mg/l	44.5	97.8	38.1	7-8 @1100
Total alk as CaCO, mg/l	58.4	30.3	275	7-8 @1410
Sulfate as SO_4, mg/l	476	490	1070	7-14 @0915
Calcium as Ca, mg/l	68	51	195	7-21 @1020
Magnesium as Mg, mg/l	88	53	58	7-21 @1020
Potassium as K, mg/l	9.4	9.8	17.2	7-21 @1020
Sodium as Na, mg/l	270	380	486	7-21 @1020
TDS, mg/l	1320	1460	2190	7-7 @1210
Iron as Fe, mg/l	1.16	0.17	28.4	7-21 @1430
Manganese as Mn, mg/l	0.21	<.01	0.61	7-21 @1430
Total hardness as $CaCO_3$, mg/l	441	305	552	7-13 @1030
Cations, meq/l	22.6	23.7	36.1	
Anions, meq/l	23.8	23.6	40.9	

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 7-3-87

TO: [illegible]
[illegible]
[illegible], UT 84[illegible]

SAMPLE SOURCE: [illegible] Mine, Submitted on 7-3-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	Twin shaft @0800	12 R Sump #2 Mine @1400	#3 Dips @1300	DATE(TIME) ANALYSIS
LAB #:	U019658	U019659	U019660	
PARAMETER				
pH [illegible]	8.89	7.11	8.20	7-3 @1100
Conductivity (field), umhos/cm	990	2380	2490	7-9 @0830
Total Alkalinity as $CaCO_3$, mg/l	298	372	160	7-8 @1100
Carbonate as CO_3, mg/l	60.0	104	0	7-8 @1100
Chloride as Cl, mg/l	10.9	21.5	40.0	7-8 @1410
Sulfate as SO_4, mg/l	267	990	886	7-14 @0915
Calcium as Ca, mg/l	75	72	52	7-21 @1020
Magnesium as Mg, mg/l	70	84	34	7-21 @1020
Potassium as K, mg/l	2.9	12.8	9.3	7-21 @1020
Sodium as Na, mg/l	64	392	370	7-21 @1020
TDS, mg/l	648	1800	1270	7-7 @1210
Iron as Fe, mg/l	0.36	0.47	0.31	7-21 @1430
Manganese as Mn, mg/l	<.01	0.16	0.025	7-21 @1430
Hardness as $CaCO_3$, mg/l	416	463	232	7-13 @1030
Cation, meq/l	12.4	27.9	21.7	
Anion, meq/l	12.7	30.8	22.2	

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

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OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 7-3-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

samples where taken on 6/30/87

SAMPLE SOURCE: Sunnyside Mine, Submitted on 7-3-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	Manshaft (X) @0810	Manshaft Sump @0735	Pole Canyon Shaft @1015	DATE(TIME) ANALYSIS
LAB #:	U019652	U019653	U019654	
PARAMETER	X		Y	
pH Units (lab)	8.89	8.84	9.02	7-3 @1100
Conductivity (lab), umhos/cm	896	2050	1270	7-9 @0830
Bicarbonate as HCO_3, mg/l	332	633	375	7-8 @1100
Carbonate as CO_3, mg/l	42.2	74.8	45.1	7-8 @1100
Chloride as Cl, mg/l	10.9	32.9	18.2	7-8 @1410
Sulfate as SO_4, mg/l	209	570	385	7-14 @0915
Calcium as Ca, mg/l	55	60	68	7-21 @1020
Magnesium as Mg, mg/l	68	63	91	7-21 @1020
Potassium as K, mg/l	2.2	9.8	5.6	7-21 @1020
Sodium as Na, mg/l	60	375	125	7-21 @1020
TDS, mg/l	567	1490	858	7-7 @1210
Iron as Fe, mg/l	0.26	0.63	0.76	7-21 @1430
Manganese as Mn, mg/l	<.01	0.092	0.015	7-21 @1430
Hardness as $CaCO_3$, mg/l	308	302	436	7-13 @1030
Cations, meq/l	11.0	24.7	16.4	
Anions, meq/l	11.5	23.7	16.1	

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 7-3-87

TO: [illegible] Coal Co.,
P.O. Box [illegible]
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside Mine, Submitted on 7-3-87

CERTIFICATE OF ANALYSIS

SAMPLE ID.	CRB	CR5	ICE-1	DATE(TIME) ANALYSIS
LAB #	@0854 U019649	@0919 U019650	@0825 U019651	
PARAMETER				
[illegible]	8.59	8.32	8.77	7-3 @1100
[illegible] (EC), umhos/cm	4880	5320	1990	7-9 @0830
Bicarbonate as HCO_3, mg/l	464	606	389	7-8 @1100
Carbonate as CO_3, mg/l	29.4	24.6	26.4	7-8 @1100
Chloride as Cl, mg/l	88.3	77.8	49.4	7-8 @1410
Sulfate as SO_4, mg/l	2010	2210	880	7-14 @0915
Calcium as Ca, mg/l	365	368	150	7-21 @1020
Magnesium as Mg, mg/l	234	228	78	7-21 @1020
Potassium as K, mg/l	23.8	24.9	9.9	7-21 @1020
Sodium as Na, mg/l	420	435	177	7-21 @1020
TDS, mg/l	4750	5120	1640	7-7 @1210
TSS, mg/l	7.2	17	23	7-13 @1020
Settleable Solids, ml/l	<.1	<.1	<.1	7-13 @1030
Oil & Grease, mg/l	<.5	<.5	<.5	7-9 @1130
Iron as Fe, mg/l	0.13	6.45	0.26	7-21 @1430
Manganese as Mn, mg/l	0.18	1.71	0.020	7-21 @1430
Total Hardness as $CaCO_3$, mg/l	2340	2460	840	7-13 @1030
Cations, meq/l	56.3	56.7	25.0	
Anions, meq/l	52.9	58.9	26.7	

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

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OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 7-13-87

TO: Kaiser Coal Corp.
P.O. Box 10
Bunnyside, UT 84539

SAMPLE SOURCE: ~~Wellington~~, Submitted on 6-16-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	PC-1 6-11-87 @0750	WR-1 6-9-87 @0840	WR-2 6-9-87 @0910	DATE(TIME) ANALYSIS
LAB #:	U019293	U019294	U019295	
PARAMETER				
pH Units (lab)	7.89	7.70	7.67	6-16 @1130
Conductivity (lab), umhos/cm	1,940	390	460	6-19 @1100
Bicarbonate as HCO_3, mg/l	517	255	310	6-17 @0930
Carbonate as CO_3, mg/l	0	0	0	6-17 @0930
Chloride as Cl, mg/l	27.4	3.9	3.9	6-18 @1410
Hardness as $CaCO_3$, mg/l	715	202	240	6-18 @0915
Magnesium as Mg, mg/l	72.8	24.1	28.3	6-29 @1030
Potassium as K, mg/l	3.8	0.7	0.9	6-29 @1030
Calcium as Ca, mg/l	107	32.8	50.4	6-29 @1030
Sodium as Na, mg/l	220	18.3	15.8	6-29 @1030
Sulfate as SO_4, mg/l	774	16.8	22.4	6-22 @0930
TDS, mg/l	1,500	270	280	6-29 @1450
Fluoride as F, mg/l	0.37	<.1	<.1	6-18 @1450
Sulfide as S, mg/l	<.1	<.1	<.1	6-17 @0800
Ammonia as NH_3-N, mg/l	0.14	<.1	<.1	6-16 @1100
Nitrate as NO_3-N, mg/l	0.044	0.43	0.42	6-16 @1400
Nitrite as NO_2-N, mg/l	0.008	0.005	0.009	6-16 @1500
Orthophosphate as PO_4-P, mg/l	0.012	<.01	<.01	6-17 @0815

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

TO: Kaiser Coal Corp.
P.O. Box 10
Emery, UT 84639

Sampler

SAMPLE SOURCE: Wellington, Submitted on 6-16-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	PC-1 6-11-87 @0750	WR-1 6-9-87 @0840	WR-2 6-9-87 @0910	DATE(TIME) ANALYSIS
LAB #:	U019293	U019294	U019295	
PARAMETER				
Iron (T) as Fe, mg/l	4.06	0.41	0.46	7-13(1030)
Aluminum (D) as Al, mg/l	0.37	0.02	0.02	7-13(1030)
Arsenic (D) as As, mg/l	<.01	<.01	<.01	7-10(1030)
Barium (D) as Ba, mg/l	0.042	0.075	0.076	7-13(1030)
Boron (D) as B, mg/l	0.23	0.15	0.14	6-22(0830)
Cadmium (D) as Cd, mg/l	<.01	<.01	<.01	7-13(1030)
Chromium (D) as Cr, mg/l	0.015	0.035	<.01	7-13(1030)
Copper (D) as Cu, mg/l	<.01	<.01	<.01	7-13(1030)
Lead (D) as Pb, mg/l	<.01	<.01	<.01	7-13(1030)
Manganese (D) as Mn, mg/l	0.16	<.01	<.01	7-13(1030)
Mercury (D) as Hg, mg/l	<.0002	<.0002	<.0002	7-13(1030)
Molybdenum (D) as Mo, mg/l	<.01	<.01	<.01	7-13(1030)
Nickel (D) as Ni, mg/l	0.028	<.01	<.01	7-13(1030)
Selenium (D), as Se, mg/l	0.0024	0.0036	0.0021	7-13(1030)
Zinc (D), as Zn, mg/l	0.025	0.020	0.020	7-13(1030)
Cation, meq/l	24.1	4.43	5.55	
Anion, meq/l	25.3	4.94	5.96	

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

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OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 7-13-87

TO: Kaiser Coal Corp.
P.O. Box [illegible]
[illegible], UT 84539

SAMPLE [illegible]: Sunnyside Mine, Submitted on 6-16-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	GT-1 6-15-87 @0825	GT-2 6-15-87 @0850	DATE(TIME) ANALYSIS
LAB #:	U019289	U019290	
PARAMETER			
pH Units (lab)	8.39	8.39	6-16 @1130
Conductivity (lab), umhos/cm	513	541	6-19 @1100
Bicarbonate as HCO_3, mg/l	299	317	6-17 @0930
Carbonate as CO_3, mg/l	4.8	5.8	6-17 @0930
Chloride as Cl, mg/l	3.6	3.9	6-18 @1410
Hardness as $CaCO_3$, mg/l	263	269	6-18 @0915
Magnesium as Mg, mg/l	36.2	37.8	6-29 @1030
Potassium as K, mg/l	1.1	1.1	6-29 @1030
Calcium as Ca, mg/l	40.3	39.4	6-29 @1030
Sodium as Na, mg/l	23.2	25.1	6-29 @1030
Sulfate as SO_4, mg/l	47.9	49.1	6-22 @0930
TDS, mg/l	341	354	6-29 @1450
TSS, mg/l	26	52	6-22 @1510
Settleable Solids, ml/l	<.1	<.1	6-22 @1510
Oil & Grease, mg/l	0.93	0.71	6-16 @1030
Iron as Fe(T), mg/l	0.38	0.43	7-13(1030)
Manganese as Mn(T), mg/l	<.01	0.018	7-13(1030)
Cation, meq/l	6.03	6.20	
Anion, meq/l	6.16	6.52	
	-1.17	-2.52	

Rex Henderson

CHEMTECH

CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 7-13-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside Mine, Submitted on 6-16-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	GT-3 6-15-87 @0920	GT-4 6-15-87 @0940	DATE(TIME) ANALYSIS
LAB #:	U019291	U019292	
PARAMETER			
pH Units (lab)	8.44	8.52	6-16 @1130
Conductivity (lab), umhos/cm	609	642	6-19 @1100
Bicarbonate as HCO_3, mg/l	324	309	6-17 @0930
Carbonate as CO_3, mg/l	8.9	4.8	6-17 @0930
Chloride as Cl, mg/l	4.1	5.4	6-18 @1410
Hardness as $CaCO_3$, mg/l	288	270	6-18 @0915
Magnesium as Mg, mg/l	40.5	43.3	6-29 @1030
Potassium as K, mg/l	1.4	1.5	6-29 @1030
Calcium as Ca, mg/l	48.3	38.9	6-29 @1030
Sodium as Na, mg/l	31.7	46.8	6-29 @1030
Sulfate as SO_4, mg/l	88.9	102	6-22 @0930
TDS, mg/l	383	403	6-29 @1450
TSS, mg/l	151	47	6-22 @1510
Settleable Solids, ml/l	<.1	<.1	6-22 @1510
Oil & Grease, mg/l	<.5	0.93	6-16 @1030
Iron as Fe(T), mg/l	0.11	0.53	7-13(1030)
Manganese as Mn(T), mg/l	<.01	<.01	7-13(1030)
Cation, meq/l	7.16	7.58	
Anion, meq/l	7.57	7.50	

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

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OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Wellington, Submitted on 6-1-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	DH 86-2 5-30-87 @1245	GW-1 5-30-87	DATE(TIME) ANALYSIS
LAB #:	U019068	U019069	
PARAMETER			
Iron (T) as Fe, mg/l	1.12	2.08	6-18 @0900
Aluminum (D) as Al, mg/l	<.1	<.1	6-18 @1400
Arsenic (D) as As, mg/l	0.011	<.01	6-18 @1400
Barium (D) as Ba, mg/l	<.1	<.1	6-18 @1400
Boron (D) as B, mg/l	0.52	0.78	6-11 @1000
Cadmium (D) as Cd, mg/l	<.01	<.01	6-18 @1400
Chromium (D) as Cr, mg/l	<.01	<.01	6-18 @1400
Copper (D) as Cu, mg/l	<.01	<.01	6-18 @1400
Iron (D) as Fe, mg/l	<.01	<.01	6-18 @1400
Manganese (D) as Mn, mg/l	0.74	0.10	6-18 @1400
Mercury (D) as Hg, mg/l	<.0002	<.0002	6-18 @1400
Molybdenum (D) as Mo, mg/l	0.12	<.1	6-18 @1400
Nickel (D) as Ni, mg/l	<.01	<.01	6-18 @1400
Selenium (D), as Se, mg/l	<.002	<.002	6-18 @1400
Zinc (D), as Zn, mg/l	0.045	<.01	6-18 @1400
Cation, meq/l	23.29	115.3	
Anion, meq/l	24.38	122.2	

— 2.91

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OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 6-24-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Wellington, Submitted on 6-1-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	DH 86-2 5-30-87 @1245	GW-1 5-30-87	DATE(TIME) ANALYSIS	
LAB #:	U019068	U019069		
PARAMETER				
pH Units (lab)	8.35	7.78	6-2	@1000
Conductivity (lab), um/hos	1,870	10,720	6-8	@1200
Bicarbonate as HCO_3, mg/l	426	764	6-5	@1000
Carbonate as CO_3, mg/l	12.7	0	6-5	@1000
Chloride as Cl, mg/l	23.7	117	6-9	@1000
Hardness as $CaCO_3$, mg/l	615	2,180	6-8	@0800
Magnesium as Mg, mg/l	102	355	6-18	@1400
Potassium as K, mg/l	13.5	13.1	6-18	@1400
Calcium as Ca, mg/l	120	288	6-18	@1400
Sodium as Na, mg/l	195	1,640	6-18	@1400
Sulfate as SO_4, mg/l	780	5,100	6-17	@1200
TDS, mg/l	1,460	9,100	6-3	@1030
Fluoride as F, mg/l	0.99	3.09	6-10	@1300
Sulfide as S, mg/l	<.1	<.1	6-2	@1030
Ammonia as NH_3-N, mg/l	1.12	0.31	6-10	@0900
Nitrate as NO_3-N, mg/l	0.19	0.63	6-15	@1150
Nitrite as NO_2-N, mg/l	0.014	0.017	6-1	@1100
OrthoPhosphate as PO_4-P, mg/l	0.016	0.015	6-1	@1000

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

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OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Wellington, Submitted on 6-1-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	B-1 5-26-87 @1415	DH 86-1 5-30-87 @1400	DATE(TIME) ANALYSIS
LAB #:	U019066	U019067	
	HC	V	
PARAMETER			
Iron (T) as Fe, mg/l	510	3.09	6-18 @0900
Aluminum (D) as Al, mg/l	<.1	<.1	6-18 @1400
Arsenic (D) as As, mg/l	<.01	<.01	6-18 @1400
Barium (D) as Ba, mg/l	<.1	<.1	6-18 @1400
Boron (D) as B, mg/l	0.45	0.44	6-11 @1000
Cadmium (D) as Cd, mg/l	<.01	<.01	6-18 @1400
Chromium (D) as Cr, mg/l	<.01	<.01	6-18 @1400
Copper (D) as Cu, mg/l	<.01	<.01	6-18 @1400
Lead (D) as Pb, mg/l	<.01	<.01	6-18 @1400
Manganese (D) as Mn, mg/l	<.01	<.01	6-18 @1400
Mercury (D) as Hg, mg/l	<.0002	<.0002	6-18 @1400
Molybdenum (D) as Mo, mg/l	0.29	<.1	6-18 @1400
Nickel (D) as Ni, mg/l	<.01	<.01	6-18 @1400
Selenium (D), as Se, mg/l	<.002	<.002	6-18 @1400
Zinc (D), as Zn, mg/l	<.01	<.01	6-18 @1400
Oil & Grease, mg/l	1.41	--	6-16 @1030
Cation, meq/l	14.01	10.06	
Anion, meq/l	15.51	10.64	

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

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OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 6-24-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Wellington, Submitted on 6-1-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	B-1 5-26-87 @1415	DH 86-1 5-30-87 @1400	DATE(TIME) ANALYSIS	
LAB #:	U019066	U019067		
		327.7		
PARAMETER				
pH Units (lab)	8.26	8.04	6-2	@1000
Conductivity (lab), um/hos	1,260	855	6-8	@1200
Bicarbonate as HCO_3, mg/l	336	418	6-5	@1000
Carbonate as CO_3, mg/l	4.8	0	6-5	@1000
Chloride as Cl, mg/l	22.7	10.0	6-9	@1000
Hardness as $CaCO_3$, mg/l	416	390	6-8	@0800
Magnesium as Mg, mg/l	71	47	6-18	@1400
Potassium as K, mg/l	9.2	6.7	6-18	@1400
Calcium as Ca, mg/l	44.8	56.8	6-18	@1400
Sodium as Na, mg/l	130	73	6-18	@1400
Sulfate as SO_4, mg/l	440	167	6-17	@1200
TDS, mg/l	980	720	6-3	@1030
Fluoride as F, mg/l	0.52	0.60	6-10	@1300
Sulfide as S, mg/l	<.1	<.1	6-2	@1030
Ammonia as NH_3-N, mg/l	0.58	0.21	6-10	@0900
Nitrate as NO_3-N, mg/l	0.46	0.13	6-15	@1150
Nitrite as NO_2-N, mg/l	0.006	0.005	6-1	@1100
OrthoPhosphate as PO_4-P, mg/l	<.01	<.01	6-1	@1000

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SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

CERTIFICATE OF ANALYSIS

SAMPLE ID:	WC-1 5-11-87 @1105	DATE(TIME) OF ANALYSIS
LAB #:	U018660	
PARAMETER		
pH Units (lab)	~~8.34~~	5-12(0810)
Conductivity (lab), umhos/cm	~~636~~	5-14(0830)
Bicarbonate as HCO_3, mg/l	318	5-13(0900)
Carbonate as CO_3, mg/l	~~5.7~~	5-13(0900)
Chloride as Cl, mg/l	5.1	5-24(0830)
Hardness as $CaCO_3$, mg/l	~~302~~	5-21(0930)
Magnesium as Mg, mg/l	48.4	5-16(1030)
Potassium as K, mg/l	~~1.9~~	5-16(1030)
Calcium as Ca, mg/l	~~36.1~~	5-16(1030)
Sodium as Na, mg/l	~~38~~	5-16(1030)
Sulfate as SO_4, mg/l	90	5-18(1400)
TDS, mg/l	455	5-14(1300)
TSS, mg/l	94	5-14(1230)
Settleable Solids, ml/l	<.1	5-14(1200)
Oil & Grease, mg/l	~~3.29~~	5-14(1750)
Iron as Fe, mg/l	~~2.66~~	5-13(1140)
Manganese as Mn, mg/l	~~0.042~~	5-13(1140)
Cation, meq/l	7.27	
Anion, meq/l	7.45	

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TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

CERTIFICATE OF ANALYSIS

SAMPLE ID:	004 5-8-87 @1425	CRB 5-8-87 @1350	DATE(TIME) OF ANALYSIS
LAB #:	U018656	U018657	
PARAMETER			
pH Units (lab)	7.90	8.42	5-12(0810)
Conductivity (lab), umhos/cm	4830	4520	5-14(0830)
Bicarbonate as HCO_3, mg/l	493	398	5-13(0900)
Carbonate as CO_3, mg/l	0	9.1	5-13(0900)
Chloride as Cl, mg/l	82	63	5-24(0830)
Hardness as $CaCO_3$, mg/l	2340	1680	5-21(0930)
Magnesium as Mg, mg/l	300	37.2	5-16(1030)
Potassium as K, mg/l	21.2	8.0	5-16(1030)
Calcium as Ca, mg/l	380	358	5-16(1030)
Sodium as Na, mg/l	410	345	5-16(1030)
Sulfate as SO_4, mg/l	2680	1500	5-18(1400)
TDS, mg/l	4520	3910	5-14(1300)
TSS, mg/l	4.8	5.6	5-14(1230)
Settleable Solids, ml/l	<.1	<.1	5-14(1200)
Oil & Grease, mg/l	2.50	4.52	5-14(1750)
Iron as Fe (tot), mg/l	0.11	0.050	5-13(1140)
Manganese as Mn (tot), mg/l	0.38	0.010	5-13(1140)
Cation, meq/l	62.0	36.1	
Anion, meq/l	66.4	39.5	

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

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SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

CERTIFICATE OF ANALYSIS

SAMPLE ID:	CRS 5-8-87 @1410	ICE-1 5-11-87 @1140	DATE(TIME) OF ANALYSIS
LAB #:	U018658	U018659	
PARAMETER			
pH Units (lab)	7.39	8.16	5-12(0810)
Conductivity (lab), umhos/cm	4780	2440	5-14(0830)
Bicarbonate as HCO_3, mg/l	608	332	5-13(0900)
Carbonate as CO_3, mg/l	0	0	5-13(0900)
Chloride as Cl, mg/l	80	50	5-24(0830)
Hardness as $CaCO_3$, mg/l	2440	1070	5-21(0930)
Magnesium as Mg, mg/l	295	132	5-16(1030)
Potassium as K, mg/l	38.2	19.8	5-16(1030)
Calcium as Ca, mg/l	410	220	5-16(1030)
Sodium as Na, mg/l	470	206	5-16(1030)
Sulfate as SO_4, mg/l	2340	1340	5-18(1400)
TDS, mg/l	4760	2150	5-14(1300)
TSS, mg/l	13	10	5-14(1230)
Settleable Solids, ml/l	<.1	<.1	5-14(1200)
Oil & Grease, mg/l	2.56	2.89	5-14(1750)
Iron as Fe (tot), mg/l	5.21	0.23	5-13(1140)
Manganese as Mn (tot), mg/l	1.49	0.025	5-13(1140)
Cation, meq/l	66.2	31.3	
Anion, meq/l	61.0	34.7	

Rex Henderson

Richard Hem
Water

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside Mine, Submitted on 5-5-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	HC-1 4-29-87 @1505	RF-1 4-29-87 @1445	RS-2 4-29-87 @1545	DATE(TIME) ANALYSIS
LAB #:	U018562	U018563	U018564	
PARAMETER				
Iron (T) as Fe, mg/l	0.13	0.26	0.12	5-13 @1140
Aluminum (D) as Al, mg/l	<.01	<.01	<.01	5-14 @1140
Arsenic (D) as As, mg/l	<.01	<.01	<.01	5-14 @1140
Barium (D) as Ba, mg/l	<.01	<.01	<.01	5-14 @1140
Boron (D) as B, mg/l	0.26	0.34	0.22	5-14 @1140
Cadmium (D) as Cd, mg/l	<.01	<.01	<.01	5-14 @1140
Chromium (D) as Cr, mg/l	<.01	<.01	<.01	5-14 @1140
Copper (D) as Cu, mg/l	<.01	<.01	<.01	5-14 @1140
Lead (D) as Pb, mg/l	0.022	0.031	<.01	5-14 @1140
Manganese (D) as Mn, mg/l	<.01	<.01	<.01	5-14 @1140
Mercury (D) as Hg, mg/l	<.0002	<.0002	<.0002	5-14 @1140
Molybdenum (D) as Mo, mg/l	<.01	<.01	<.01	5-14 @1140
Nickel (D) as Ni, mg/l	<.01	<.01	<.01	5-14 @1140
Selenium (D), as Se, mg/l	<.002	<.002	<.002	5-14 @1140
Zinc (D), as Zn, mg/l	0.185	0.030	0.040	5-14 @1140
Cation, meq/l	19.31	12.35	13.99	
Anion, meq/l	18.70	12.64	14.33	

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CHEMICAL AND BACTERIOLOGICAL ANALYSES

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OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 5-21-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside Mine, Submitted on 5-5-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	HC-1 4-29-87 @1505	RF-1 4-29-87 @1445	RS-2 4-29-87 @1545	DATE(TIME) ANALYSIS	
LAB #:	U018562	U018563	U018564		
PARAMETER					
pH Units (lab)	8.40	8.63	8.10	5-6	@1000
pH Units (field)	1,690	1,200	1,260	5-7	@1045
Bicarbonate as HCO_3, mg/l	467	470	571	5-7	@1000
Carbonate as CO_3, mg/l	13.2	24.7	0	5-7	@1000
Chloride as Cl, mg/l	27.2	19.4	19.1	5-8	@1200
Hardness as $CaCO_3$, mg/l	629	369	398	5-8	@1300
Magnesium as Mg, mg/l	102	64.4	71.1	5-16	@1030
Potassium as K, mg/l	7.2	2.0	1.5	5-16	@1030
Calcium as Ca, mg/l	59.8	13.2	35.6	5-16	@1030
Sodium as Na, mg/l	174	142	142	5-16	@1030
Sulfate as SO_4, mg/l	440	140	180	5-10	@1400
TDS, mg/l	1,190	695	790	5-7	@1610
Fluoride as F, mg/l	0.59	0.06	0.46	5-8	@0845
Sulfide as S, mg/l	<.1	<.1	<.1	5-5	@0910
Ammonia as NH_3-N, mg/l	0.74	0.58	0.48	5-7	@1200
Nitrate as NO_3-N, mg/l	0.061	0.22	0.57	5-8	@1730
Nitrite as NO_2-N, mg/l	<.005	<.005	<.005	5-6	@1115
OrthoPhosphate as PO_4-P, mg/l	<.01	<.01	<.01	5-6	@1100

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OREM, UTAH 84057
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2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 5-19-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside Mine, Submitted on 4-14-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	CRS	CRB	DATE(TIME) ANALYSIS
LAB #:	U018179	U018180	
PARAMETER			
pH Units (lab)	7.57	7.94	4-14 @1000
Conductivity (lab), umhos/cm	4,680	4,510	4-22 @1450
Bicarbonate as HCO_3, mg/l	639	542	4-15 @1000
Carbonate as CO_3, mg/l	0	0	4-15 @1000
Chloride as Cl, mg/l	81.4	84.7	4-17 @1100
Hardness as $CaCO_3$, mg/l	1,200	1,200	4-14 @1030
Magnesium as Mg, mg/l	84.8	85.6	4-24 @1030
Potassium as K, mg/l	190	38.2	4-24 @1030
Calcium as Ca, mg/l	340	330	4-24 @1030
Sodium as Na, mg/l	442	412	4-24 @1030
Sulfate as SO_4, mg/l	1,780	1,620	4-20 @1100
TDS, mg/l	4,640	4,520	4-16 @1350
TSS, mg/l	19	24	4-18 @1710
Settleable Solids, ml/l	0.5	0.5	4-14 @1250
Oil & Grease, mg/l	<.5	<.5	4-20 @1630
Iron as Fe, mg/l	2.31	0.91	4-24 @1030
Manganese as Mn, mg/l	1.72	1.04	4-24 @1030
Cation, meq/l	48.0	42.4	
Anion, meq/l	49.8	45.0	

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OREM, UTAH 84057
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2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 5-19-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside Mine, Submitted on 4-14-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	15 Rt. Sump 4-7-87 @1545	DATE(TIME) ANALYSIS
LAB #:	U018181	
PARAMETER		
pH Units (lab)	8.37	4-14 @1000
Conductivity (lab), umhos/cm	1,640	4-22 @1450
Bicarbonate as HCO_3, mg/l	614	4-15 @1000
Carbonate as CO_3, mg/l	24.8	4-15 @1000
Chloride as Cl, mg/l	24.8	4-17 @1100
Hardness as $CaCO_3$, mg/l	275	4-14 @1030
Magnesium as Mg, mg/l	49.2	4-24 @1030
Potassium as K, mg/l	9.0	4-24 @1030
Calcium as Ca, mg/l	59.8	4-24 @1030
Sodium as Na, mg/l	294	4-24 @1030
Sulfate as SO_4, mg/l	380	4-20 @1100
TDS, mg/l	1,120	4-16 @1350
TSS, mg/l	11	4-18 @1710
Settleable Solids, ml/l	0.2	4-14 @1250
Oil & Grease, mg/l	<.5	4-20 @1630
Iron as Fe, mg/l	0.33	4-24 @1030
Manganese as Mn, mg/l	<.01	4-24 @1030
Cation, meq/l	20.1	
Anion, meq/l	19.5	

Rex Henderson

CHEMTECH

CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 5-19-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside Mine, Submitted on 4-14-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	Clear Water 004	NC 2-1 4-8-87 @1545	DATE(TIME) ANALYSIS
LAB #:	U018177	U018178	
PARAMETER			
pH Units (lab)	~~8.53~~	7.70	4-14 @1000
Conductivity (lab), umhos/cm	1,820	110	4-22 @1450
Bicarbonate as HCO_3, mg/l	511	49.7	4-15 @1000
Carbonate as CO_3, mg/l	~~18.0~~	0	4-15 @1000
Chloride as Cl, mg/l	~~49.4~~	2.6	4-17 @1100
Hardness as $CaCO_3$, mg/l	~~251~~	51.1	4-14 @1030
Magnesium as Mg, mg/l	~~45.3~~	4.4	4-24 @1030
Potassium as K, mg/l	~~10.1~~	1.7	4-24 @1030
Calcium as Ca, mg/l	~~52.8~~	15.8	4-24 @1030
Sodium as Na, mg/l	~~345~~	3.6	4-24 @1030
Sulfate as SO_4, mg/l	510	19.9	4-20 @1100
TDS, mg/l	1,300	89	4-16 @1350
TSS, mg/l	54	123	4-18 @1710
Settleable Solids, ml/l	0.3	<.1	4-14 @1250
Oil & Grease, mg/l	~~<.5~~	<.5	4-20 @1630
Iron as Fe, mg/l	~~0.21~~	6.82	4-24 @1030
Manganese as Mn, mg/l	~~0.015~~	0.062	4-24 @1030
Cation, meq/l	21.6	1.35	
Anion, meq/l	21.0	1.27	

1.41

Rex Henderson

½ mL 100%

CHEMTECH

CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

RECEIVED
DEC 9 1987
DIVISION OF
OIL, GAS & MINING

DATE: 5-19-87

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside Mine, Submitted on 4-14-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	002 4-8-87 @1510	015	DATE(TIME) ANALYSIS
LAB #:	U018175	U018176	
PARAMETER	X	X	
pH Units (lab)	8.27	8.19	4-14 @1000
Conductivity (lab), umhos/cm	2,040	2,140	4-22 @1450
Bicarbonate as HCO_3, mg/l	~~817~~	819	4-15 @1000
Carbonate as CO_3, mg/l	0	0	4-15 @1000
Chloride as Cl, mg/l	~~39.0~~	37.1	4-17 @1100
Hardness as $CaCO_3$, mg/l	~~672~~	246	4-14 @1030
Magnesium as Mg, mg/l	~~45.1~~	43.4	4-24 @1030
Potassium as K, mg/l	~~10.4~~	10.1	4-24 @1030
Calcium as Ca, mg/l	~~45.9~~	55.3	4-24 @1030
Sodium as Na, mg/l	~~411~~	443	4-24 @1030
Sulfate as SO_4, mg/l	440	520	4-20 @1100
TDS, mg/l	1,440	1,560	4-16 @1350
TSS, mg/l	16	15	4-18 @1710
Settleable Solids, ml/l	0.3	0.3	4-14 @1250
Oil & Grease, mg/l	<.5	<.5	4-20 @1630
Iron as Fe, mg/l	0.28	0.30	4-24 @1030
Manganese as Mn, mg/l	~~0.032~~	0.020	4-24 @1030
Cation, meq/l	24.1	25.8	
Anion, meq/l	23.6	25.3	

Rex Henderson

Rex Henderson

Date: July 16, 1984

BOOKCLIFFS COMMERICAL LABORATORIES

WATER ANALYSIS REPORT

Client: Kaiser Steel Corporation
Address: Sunnyside Mine
Sunnyside, Utah 84539
Attn: Mr. Doug Pierce

Sample Date: 6/29/84
Date Received: 7/2/84

Sample I.D.	Lab. No.	Iron, Total mg/l	Manganese, Total mg/l	Oil & Grease mg/l	pH (units)	T.D.S. mg/l	T.S.S. mg/l	Sulfate mg/l	Field pH	Field Temp.
C.R. Permit Boundary 08:44	84-3858-W	0.61	1.08	<1	7.6	4,930	20	3,100	7.84	60°F
C.R. Filter Boundary 08:55	84-3859-W	1.32	1.56	<1	7.6	5,420	20	3,330	7.61	61°F
C.R. Source Boundary 09:08	84-3860-W	7.10	1.92	<1	7.5	5,200	28	3,130	6.75	65°F
002 Discharge 10:52	84-3861-W	0.51	0.05	<1	8.1	1,330	8	542	7.80	62°F

Ralph V. Poulsen

Ralph V. Poulsen, Director

BOOKCLIFFS
COMMERCIAL LABORATORIES

Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 07/06/84

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

84-002104

SAMPLE: WATER SAMPLES COLLECTED 5-31-84 RECEIVED 6-8-84 FOR ANALYSIS UNDER P.O. #280-71064.

	COARSE REFUSE SOURCE PH - 7.10 TEMP - 70	COARSE REFUSE FILTER PH - 7.56 TEMP - 59	COARSE REF. PER. BOUNDARY PH - 7.91 TEMP - 59
Cyanide Cn tot.mg/l EPA 425.1	<.001	<.001	<.001
Iron, Fe (Tot) mg/l SM303A	2.68	.82	8.10
Manganese,Mn (Tot) mgl SM303A	1.89	.69	1.93
Oil and Grease mg/l SM503C	<.1	<.1	<.1
Phenol ppm SM510B	.025	.012	.038
Sulfate, SO4 mg/l SM426D	1,140	1,280	1,250
Suspended Solids mg/l SM 209D	18.0	30.0	96.0
Total Dis. Solids mg/l SM209B	5,020	5,720	5,100
pH Units SM423	7.60	7.95	7.65

High TDS
High Iron

FORD CHEMICAL LABORATORY, INC.

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 07/06/84

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

84-002103

SAMPLE: WATER SAMPLES COLLECTED 5-31-84 RECEIVED 6-8-84 FOR ANALYSIS UNDER SCHEDULE "A" ANALYSIS UNDER P.O. #280-71064.

	004 MINE PH - 8.29 TEMP - 59	GT-1 PH - 8.40 TEMP - 58	GT-2 PH - 8.53 TEMP - 58	GT-3 PH - 8.39 TEMP - 59	GT-4 PH - 8.41 TEMP - 59
BOD Total 5 Day mg/l SM507	1.4	<.1	3.0	.4	.6
Iron, Fe (Tot) mg/l SM303A	.17	.34	.42	.53	.34
Manganese,Mn (Tot) mgl SM303A	.01	.04	.04	.04	.03
Oil and Grease mg/l SM503C	<.1	<.1	<.1	<.1	<.1
Sulfate, SO4 mg/l SM426D	680	55	58	64	58
Suspended Solids mg/l SM 209D	41.0	38.0	17.0	29.0	84.0
Total Dis. Solids mg/l SM209B	1,260	260	320	380	240
pH Units SM423	8.20	7.90	8.30	8.30	7.80

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-002103

	GT-4-5 PH - 8.41 TEMP - 59	GT-5 PH - 8.4 TEMP - 59	GT-6 PH - 8.53 TEMP - 60
BOD Total 5 Day mg/l SM507	.4	<.1	1.0
Iron, Fe (Tot) mg/l SM303A	.42	.61	.61
Mangamese,Mn (Tot) mgl SM303A	.05	.04	.04
Oil and Grease mg/l SM503C	<.1	<.1	<.1
Sulfate, SO4 mg/l SM426D	62	64	65
Suspended Solids mg/l SM 209D	31.0	38.0	50.0
Total Dis. Solids mg/l SM209B	320	380	380
pH Units SM423	8.20	8.00	8.10

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 05/29/84

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

84-009477

SAMPLE: WATER SAMPLES RECEIVED 4-26-84 FOR SCHEDULE "A" ANALYSIS UNDER P.O. 280-71064.

	002 MINE DISCHARGE 4-17-84	COARSE REFUSE SOURCE 4-23-84	COARSE REFUSE FILTER 4-23-84	COARSE REFUSE PERMIT BOUNDARY 4-23-84
BOD Total 5 Day mg/l SM507	2.0	<1.0	<1.0	<1.0
Iron, Fe (Tot) mg/l SM303A	.28	6.52	1.98	.62
Manganese, Mn (Tot) mgl SM303A	.05	1.89	1.49	.90
Oil and Grease mg/l SM503C	<.1	<.1	<.1	<.1
Sulfate, SO4 mg/l SM426D	520	2,690	2,860	2,740
Suspended Solids mg/l SM 209D	6.0	25.0	19.0	17.0
Total Dis. Solids mg/l SM209B	1,200	4,440	4,880	4,620
pH Units SM423	7.70	6.70	7.40	7.60

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/27/84

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

84-009192

SAMPLE: WATER SAMPLES COLLECTED 3-31-84 RECEIVED 4-6-84 FOR SCHEDULE "B" ANALYSIS UNDER P.O. 280-71064.

	MINE DISCHARGE 002	004
Acidity as CaCO3 mg/l	14.00	3.00
Alkalinity,CaCO3 mg/l SM403	655	325
Arsenic, As (Tot) mg/l SM304	<.001	<.001
BOD Total 5 Day mg/l SM507	2.8	2.1
Chloride, Cl mg/l SM407A	60.0	50.0
Copper, Cu (Tot) mg/l SM303A	.003	.010
Iron, Fe (Tot) mg/l SM303A	.22	.09
Manganese,Mn (Tot) mgl SM303A	.05	<.01
Nitrate, NO3-N mg/l SM418C	.51	.61
Oil and Grease mg/l SM503C	<.1	1.2
Selenium, Se Tot. mg/l SM304	.002	<.001
Silver, Ag (Tot) mg/l SM303A	<.0010	<.0010
Sulfate, SO4 mg/l SM426D	290	276

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-009192

	MINE DISCHARGE 002	004
Suspended Solids mg/l SM 209D	16.0	10.5
Total Dis. Solids mg/l SM209B	1,320	1,200
pH Units SM423	7.80	7.80

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/27/84

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

84-009191

SAMPLE: WATER SAMPLES COLLECTED 3-31-84 RECEIVED 4-6-84 FOR SCHEDULE "A" ANALYSIS UNDER P.O. 280-71064.

	COARSE REF. SOURCE	COARSE REF. FILTER	COARSE REF. PERMIT
BOD Total 5 Day mg/l SM507	6.8	4.9	1.5
Iron, Fe (Tot) mg/l SM303A	6.40	.07	.40
Manganese, Mn (Tot) mgl SM303A	1.87	1.43	.85
Oil and Grease mg/l SM503C	.8	.5	.2
Sulfate, SO4 mg/l SM426D	850	1,250	650
Suspended Solids mg/l SM 209D	43.0	3.0	20.0
Total Dis. Solids mg/l SM209B	4,980	5,540	1,820 ?
pH Units SM423	6.80	7.50	6.90

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Date: March 5, 1984

BOOKCLIFFS COMMERICAL LABORATORIES

WATER ANALYSIS REPORT

Client: Kaiser Steel Corporation
Address: Sunnyside Mine
Sunnyside, Utah 84539
Attn: Mr. Robert Turner

Date Received: 2/21/84
Sample Date: 2/14/84

Sample I.D.	Lab. No.	Iron, Total mg/l	Manganese Total mg/l	Oil & Grease mg/l	pH (units)	T.D.S. mg/l	T.S.S. mg/l	Sulfate mg/l
Coarse Refuse Source 1340	84-0554-W	7.90	1.88	<1	7.2	4,830	42	2,960
Coarse Refuse Filter 1330	84-0555-W	2.03	1.51	<1	7.7	4,960	36	3,100
Coarse Permit Boundary 1335	84-0556-W	0.59	0.83	<1	7.8	4,740	24	3,000
002 Mine Discharge 1300	84-0557-W	0.15	0.06	<1	8.1	1,370	8	515
004 Mine Discharge 1430	84-0558-W	1.08	0.08	<1	8.0	1,400	32	739
GT-1 1445	84-0559-W	0.37	0.06	<1	8.2	405	<4	86
GT-2 1500	84-0560-W	0.30	0.05	<1	8.3	400	<4	82
GT-3 1505	84-0561-W	0.32	0.03	<1	8.2	425	28	117
GT-4 1520	84-0562-W	0.11	0.03	<1	8.3	435	<4	111
GT-4.5 1525	84-0563-W	0.08	0.03	<1	8.2	720	4	240
GT-5 1530	84-0564-W	0.08	0.03	<1	8.3	705	6	259
GT-6 1525	84-0565-W	0.47	0.04	<1	8.2	705	4	251

Ralph V. Poulsen (F.P.)
Ralph V. Poulsen, Director

BOOKCLIFFS
COMMERCIAL LABORATORIES

Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

High TDS
" Sulfate

DATE: 03/14/84

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

84-008418

SAMPLE: MINE WATER SAMPLES COLLECTED 1-25-84 RECEIVED 1-30-84 FOR SCHEDULE "A" ANALYSIS UNDER P.O. 280-71064.

	002 MINE DISCHARGE	004 MINE DISCHARGE	COARSE REFUSE SOURCE	COARSE REFUSE FILTER	COARSE REFUSE PERMIT BOUNDARY
BOD Total 5 Day mg/l SM507	1.2	1.5	.5	1.7	1.1
Iron, Fe (Tot) mg/l SM303A	.23	.15	6.93	1.82	3.84
Manganese, Mn (Tot) mgl SM303A	.04	.01	1.72	1.30	1.21
Oil and Grease mg/l SM503C	.6	<.1	<.1	<.1	<.1
Sulfate, SO4 mg/l SM426D	430	490	2,740	2,860	2,770
Suspended Solids mg/l SM 209D	9.0	4.0	21.0	55.0	21.0
Total Dis. Solids mg/l SM209B	1,260	1,180	4,620	4,800	4,620
pH Units SM423	8.00	7.70	7.20	7.60	8.20

FORD CHEMICAL LABORATORY, INC.

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Date: January 17, 1984

BOOKCLIFFS COMMERICAL LABORATORIES

WATER ANALYSIS REPORT

Client: Kaiser Steel Corporation
Address: Sunnyside Mine
Sunnyside, Utah 84539

Date Received: 1/6/84

Attn: Mr. Robert Turner

Sample I.D.	Sample Date	Lab. No.	Iron, Total mg/l	Manganese, Total mg/l	Oil & Grease mg/l	pH (units)	T.D.S. mg/l	T.S.S. mg/l	Sulfate mg/l
002 Mine Discharge	12/27/83	84-0022-W	0.43	0.15	1	7.8	1,350	52	519
004 Mine Discharge	12/27/83	84-0023-W	0.61	0.13	<1	7.9	1,410	10	663
Coarse Refuse Source	12/27/83	84-0024-W	8.90	1.88	<1	7.0	4,970	30	3,000
Coarse Refuse Filter*	12/27/83	84-0025-W	1.31	1.62	N/A	7.8	5,110	14	3,100
Coarse Refuse Permit Boundary*	12/29/83	84-0026-W	1.24	1.15	N/A	7.8	4,240	102	2,550

* - Oil and Grease bottle was broken in shipment.

Ralph V. Poulsen

Ralph V. Poulsen, Director

BOOKCLIFFS
COMMERCIAL LABORATORIES

Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 12/19/83

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

83-007820

SAMPLE: WATER SAMPLES RECEIVED 12-2-83 FOR SCHEDULE A ANALYSIS UNDER P.O. 280-71064.

	CS REF. FILTER 11-29-83	CS REF. PERMIT BOUNDARY	COARSE REFUSE SOURCE 11-29-83
BOD Total 5 Day mg/l SM507	19.4	20.1	19.0
Iron, Fe mg/l SM303A	2.340	2.500	4.750
Manganese, Mn mg/l SM303A	1.710	1.350	1.770
Oil and Grease mg/l SM503C	<.2	<.2	<.2
Sulfate, SO4 mg/l SM426D	2,630	2,260	2,580
Suspended Solids mg/l SM 209D	30.0	84.0	44.0
Total Dis. Solids mg/l SM209B	5,260	4,980	5,100
pH Units SM423	7.40	7.30	7.70

FORD CHEMICAL LABORATORY, INC.

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Date: November 26, 1983

BOOKCLIFFS COMMERICAL LABORATORIES

WATER ANALYSIS REPORT

Client: Kaiser Steel Corporation
Address: Sunnyside Mine
Sunnyside, Utah 84539
Attn: Mr. Robert Turner

Date Received: 11/10/83

Sample I.D.	Sample Date	Lab. No.	Iron, Total mg/l	Manganese Total mg/l	Oil & Grease mg/l	pH (units)	Sulfate mg/l	T.D.S. mg/l	T.S.S. mg/l
GT-1 1455	10/19/83	83-4558-W	0.05	<0.02	<1	8.5	97	425	<4
GT-2 1520	10/19/83	83-4559-W	0.11	0.03	<1	8.5	95	425	<4
GT-3 1525	10/19/83	83-4560-W	0.11	0.02	1	8.4	111	435	<4
GT-4 1525	10/19/83	83-4561-W	0.12	0.02	<1	8.5	123	570	10
GT-4.5 1550	10/19/83	83-4562-W	0.21	0.04	<1	8.3	310	860	6
GT-5 1600	10/19/83	83-4563-W	0.08	0.02	<1	8.4	514	880	4
GT-6 1615	10/19/83	83-4564-W	0.09	0.02	<1	8.5	321	855	8
Coarse Refuse Permit Bound 1345	10/25/83	83-4565-W	3.43	1.88	<1	7.8	2,990	5,310	124
Coarse Refuse Filter 1336	10/25/83	83-4566-W	1.74	2.02	<1	7.8	3,070	5,450	30

Note: Samples exceeded holding time for BOD

Ralph V. Poulsen

Ralph V. Poulsen, Director

BOOKCLIFFS
COMMERCIAL LABORATORIES

Date: November 26, 1983

BOOKCLIFFS COMMERICAL LABORATORIES

WATER ANALYSIS REPORT

Client: Kaiser Steel Corporation
Address: Sunnyside Mine
Sunnyside, Utah 84539
Attn: Mr. Robert Turner

Date Received: 11/10/83

Sample I.D.	Sample Date	Lab. No.	Iron, Total mg/l	Manganese Total mg/l	Oil & Grease mg/l	pH (units)	Sulfate mg/l	T.D.S. mg/l	T.S.S. mg/l
Coarse Refuse Source 1356	10/25/83	83-4567-W	4.21	1.90	1	7.2	2,900	5,230	20
Williams Draw Site 14 1200	10/19/83	83-4568-W	0.04	0.02	1	8.0	673	1,490	<4
Left Fork "C" Canyon 1215	10/6/83	83-4569-W	0.24	0.15	1	8.1	869	1,880	6
Right Fork "C" Canyon 1330	10/6/83	83-4570-W	0.22	<0.02	1	8.3	478	1,210	8
Bear Canyon CVBC-1 1355	10/11/83	83-4571-W	0.12	0.03	<1	8.3	909	1,890	6
Site No. 16 1302	10/19/83	83-4572-W	0.09	<0.02	<1	8.5	114	590	10

Note: Samples exceeded holding time for BOD

Ralph V. Poulsen

Ralph V. Poulsen, Director

BOOKCLIFFS
COMMERCIAL LABORATORIES

Date: October 20, 1983

BOOKCLIFFS COMMERICAL LABORATORIES

WATER ANALYSIS REPORT

Client: Kaiser Steel Corporation
Address: Sunnyside Mine
Sunnyside, Utah 84539
Attn: Mr. Robert Turner

Date Received: 9/30/83

Sample I.D.	Sample Date	Lab. No.	Iron, Total mg/l	Manganese Total mg/l	Oil & Grease mg/l	pH (units)	T.D.S. mg/l	T.S.S. mg/l	Sulfate mg/l
Coarse Refuse - Permit Boundary 1438	9/28/83	83-3923-W	0.86	1.20	1	7.6	4,990	58	3,060
Coarse Refuse - Filter 1432	9/28/83	83-3924-W	2.50	1.67	1	7.7	4,990	48	3,080
Coarse Refuse - Source 1412	9/28/83	83-3925-W	5.91	1.50	<1	7.1	4,770	36	2,930
002 1346	9/28/83	83-3926-W	0.21	0.03	<1	8.2	1,410	10	584

Ralph V. Poulsen

Ralph V. Poulsen, Director

BOOKCLIFFS
COMMERCIAL LABORATORY

Date: August 31, 1983

BOOKCLIFFS COMMERICAL LABORATORIES

WATER ANALYSIS REPORT

Client: Kaiser Steel Corporation
Address: Sunnyside Mine
Sunnyside, Utah 84539
Attn: Mr. Robert Turner

Date Received: 8/17/83

Sample I.D.	Sample Date	Lab. No.	Iron, Total mg/l	Manganese Total mg/l	Oil & Grease mg/l	pH (units)	T.D.S. mg/l	T.S.S. mg/l	Sulfate mg/l
Grassy Trail GT-1 1306	8/12/83	83-3231-W	0.11	<0.03	4	8.6	380	6	54
Grassy Trail GT-2 1330	8/12/83	83-3232-W	0.12	<0.03	1	8.5	410	<4	60
Grassy Trail GT-3 1330	8/12/83	83-3233-W	0.18	<0.03	<1	8.5	395	4	68
Grassy Trail GT-4 1400	8/12/83	83-3234-W	0.15	<0.03	3	8.6	400	12	70
Grassy Trail GT-4.5 1400	8/12/83	83-3235-W	0.50	<0.03	<1	8.4	625	22	208
Grassy Trail GT-5 1400	8/12/83	83-3236-W	0.36	0.03	6	8.4	620	32	224
Grassy Trail GT-6 1435	8/12/83	83-3237-W	0.24	<0.03	4	8.4	605	10	220

Ralph V. Poulsen

Ralph V. Poulsen, Director

BOOKCLIFFS
COMMERCIAL LABORATORIES

Date: August 31, 1983

BOOKCLIFFS COMMERICAL LABORATORIES

WATER ANALYSIS REPORT

Client: Kaiser Steel Corporation
Address: Sunnyside Mine
Sunnyside, Utah 84539
Attn: Mr. Robert Turner

Date Received: 8/17/83

Sample I.D.	Sample Date	Lab. No.	Iron, Total mg/l	Manganese Total mg/l	Oil & Grease mg/l	pH (units)	T.D.S. mg/l	T.S.S. mg/l	Sulfate mg/l
No. 1 Mine Manshaft	8/11/83	83-3238-W	<0.03	<0.03	2	8.3	575	<4	179
002 Mine Discharge 1410	8/11/83	83-3239-W	0.42	0.03	2	8.2	1,460	<4	607
No. 3 Mine DDH-25-UG 1220	8/15/83	83-3240-W	0.15	<0.03	2	7.9	980	20	438
004 Mine Discharge 1447	8/12/83	83-3241-W	0.08	<0.03	9	8.3	1,530	18	739
Little Bear Canyon LBC-1 1050	8/12/83	83-3242-W	0.45	<0.03	1	8.6	405	58	49
Little Bear Canyon LBC-2 1006	8/12/83	83-3243-W	0.13	<0.03	2	8.0	435	74	72
Icelander-Siding Sprg. 1430	8/16/83	83-3244-W	<0.03	<0.03	2	7.7	1,090	14	282

Ralph V. Poulsen

Ralph V. Poulsen, Director

BOOKCLIFFS
COMMERCIAL LABORATORIES

Date: August 31, 1983

BOOKCLIFFS COMMERICAL LABORATORIES

WATER ANALYSIS REPORT

Client: Kaiser Steel Corporation
Address: Sunnyside Mine
Sunnyside, Utah 84539
Attn: Mr. Robert Turner

Date Received: 8/17/83

Sample I.D.	Sample Date	Lab. No.	Iron, Total mg/l	Manganese Total mg/l	Oil & Grease mg/l	pH (units)	T.D.S. mg/l	T.S.S. mg/l	Sulfate mg/l
Icelander-Columbia Dugway Sprg. 1350	8/16/83	83-3245-W	0.27	<0.03	<1	7.9	1,140	64	381
Icelander-Big Spring 1525	8/16/83	83-3246-W	<0.03	<0.03	1	7.9	1,110	14	379
Grassy Trail-Hiway 123+Culvert 1335	8/16/83	83-3247-W	0.18	<0.03	<1	8.1	600	44	146
Grassy Trail-Lower Diversion Dam 1500	8/16/83	83-3248-W	0.45	<0.03	<1	8.2	755	72	161
Grassy Trail-Big Sprg Ranch 1530	8/16/83	83-3249-W	0.98	<0.03	<1	8.4	730	64	212
Pole Canyon Shaft PC5-1	8/11/83	83-3250-W	0.15	<0.03	3	8.1	935	14	451

Ralph V. Poulsen

Ralph V. Poulsen, Director

BOOKCLIFFS
COMMERCIAL LABORATORIES

Date: August 29, 1983

BOOKCLIFFS COMMERICAL LABORATORIES

WATER ANALYSIS REPORT

Client: Kaiser Steel Corporation
Address: Sunnyside Mine
Sunnyside, Utah 84539
Attn: Mr. Robert Turner

Date Received: 8/15/83

Sample I.D.	Sample Date	Lab. No.	Iron, Total mg/l	Manganese Total mg/l	Oil & Grease mg/l	pH (units)	T.D.S. mg/l	T.S.S. mg/l	Sulfate mg/l
Bear Canyon #BCMSL-1 1157	8/10/83	83-3152-W	0.21	<0.03	<1	8.3	545	14	183
Bear Canyon #BCMSU-2 1056	8/10/83	83-3153-W	0.29	0.03	<1	8.2	615	16	288
Bear Canyon #BCLF 1102	8/10/83	83-3154-W	<0.03	0.03	<1	8.4	570	8	220
Bear Canyon Rt. Fork #BCRF-1 0950	8/10/83	83-3155-W	0.09	<0.03	<1	7.9	390	10	45
West Ridge #WR-1 1035	8/9/83	83-3156-W	<0.03	<0.03	<1	7.9	260	6	<4
West Ridge #WR-2 1119	8/9/83	83-3157-W	0.05	0.03	<1	7.8	295	<4	8
Water Canyon So. #WCS-2 1107	8/8/83	83-3158-W	0.03	0.03	<1	8.1	635	10	163
Pole Canyon #PC-1 1114	8/5/83	83-3159-W	0.09	0.03	<1	8.1	1,530	6	770

Ralph V. Poulsen

Ralph V. Poulsen, Director

BOOKCLIFFS
COMMERCIAL LABORATORIES

Date: August 18, 1983

BOOKCLIFFS COMMERICAL LABORATORIES

WATER ANALYSIS REPORT

Client: Kaiser Steel Corporation
Address: Sunnyside Mine
Sunnyside, Utah 84539
Attn: Mr. Robert Turner

Date Received: 8/5/83

Sample I.D.	Sample Date	Lab. No.	Iron, Total mg/l	Manganese Total mg/l	Oil & Grease mg/l	pH (units)	T.D.S. mg/l	T.S.S. mg/l	Sulfate mg/l
#2 Canyon Left Fork-1 1347	8/2/83	83-2956-W	0.09	<0.03	3	8.2	635	4	290
#2 Canyon Left Fork-2 1535	8/2/83	83-2957-W	<0.03	<0.03	2	7.8	605	6	237
#2 Canyon Left Fork-3 1458	8/2/83	83-2958-W	0.53	<0.03	2	8.3	515	2	163
Water Canyon - WC-1 1206	8/4/83	83-2959-W	0.21	<0.03	1	8.3	455	2	169
Water Canyon - WC-2 1109	8/4/83	83-2960-W	0.32	<0.03	2	8.2	525	34	146
Water Canyon - WC-3 1056	8/4/83	83-2961-W	0.12	<0.03	1	8.4	855	14	445

Ralph V. Poulsen

Ralph V. Poulsen, Director

BOOKCLIFFS
COMMERCIAL LABORATORIES

Date: August 18, 1983

BOOKCLIFFS COMMERICAL LABORATORIES

WATER ANALYSIS REPORT

Client: Kaiser Steel Corporation
Address: Sunnyside Mine
Sunnyside, Utah 84539
Attn: Mr. Robert Turner

Date Received: 8/5/83

Sample I.D.	Sample Date	Lab. No.	Iron, Total mg/l	Manganese Total mg/l	Oil & Grease mg/l	pH (units)	T.D.S. mg/l	T.S.S. mg/l	Sulfate mg/l
Water Canyon - WC-4 1126	8/4/83	83-2962-W	0.11	<0.03	2	8.4	515	4	193
Pasture Canyon - 1 1346	8/3/83	83-2963-W	0.17	<0.03	1	8.3	560	56	218
#2 Canyon Right Fork-1 1104	8/3/83	83-2964-W	0.17	<0.03	1	8.0	1,090	10	519

Ralph V. Poulsen

Ralph V. Poulsen, Director

BOOKCLIFFS
COMMERCIAL LABORATORIES

Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 08/09/83

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

83-005525

SAMPLE: WATER SAMPLES COLLECTED 7-8-83 RECEIVED 7-14-83 FOR SCHEDULE "B" ANALYSIS UNDER P.O. 280-71064.

	002 2:10 PM	004 1:42 PM
dity as CaCO3 mg/l	<.01	<.01
Alkalinity,CaCO3 mg/l SM205	582	460
Arsenic, As (Tot) mg/l SM404C	.005	.007
BOD Total 5 Day mg/l SM507	4.2	6.0
Chloride, Cl mg/l SM408A	38.0	44.0
Copper, Cu (Tot) mg/l SM308A	.010	.020
Iron, Fe (Tot) mg/l SM310B	.340	.060
Manganese,Mn (Tot) mgl SM314A	.030	.004
Nitrate, NO3-N mg/l SM418C	.38	.26
Oil and Grease mg/l SM503A	<.1	<.1
Selenium, Se (Tot) mg/l SM318	.003	.006
Silver, Ag (Tot) mg/l SM319A	.004	.004
Sulfate, SO4 mg/l SM427C	580	680

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-005525

	002 2:10 PM	004 1:42 PM
Suspended Solids mg/l SM 209D	14.0	36.0
Total Dis. Solids mg/l SM208C	1,454	1,544
pH Units SM424	8.00	8.50

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 08/04/83

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

83-005524

SAMPLE: WATER SAMPLES COLLECTED 7-8-83 RECEIVED 7-14-83 FOR SCHEDULE "A" ANALYSIS UNDER P.O. 280-71064.

	CR PERMIT BOUND 1:18 PM	WM. DRAW SPRING 9:50 AM	#16N SPRING 9:20 AM	C. REFUSE FILTER 1:28 PM	COARSE REF SOURCE 1:02 PM
~~BOD Total 5-Day mg/l SM507~~	7.7	5.2	5.0	4.6	7.0
Iron, Fe (Tot) mg/l SM310B	.500	.280	.020	1.600	6.900
Manganese, Mn (Tot) mgl SM314A	.615	.003	.002	1.580	1.680
Oil and Grease mg/l SM503A	1.9	<.2	<.2	.5	<.2
Sulfate, SO4 mg/l SM427C	2,960	680	132	2,940	2,730
Suspended Solids mg/l SM 209D	33.0	13.0	8.0	28.0	33.0
Total Dis. Solids mg/l SM208C	4,676	1,320	553	4,706	4,526
pH Units SM424	7.90	7.90	8.00	7.60	7.20

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 07/11/83

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

83-005203

SAMPLE: WATER SAMPLES COLLECTED 6-21-83 RECEIVED 6-24-83 FOR SCHEDULE "A" ANALYSIS UNDER P.O. 280-71064.

	002 9:24 AM	004 9:26 AM	COARSE REFUSE PERMIT B 7:48 AM	COARSE REFUSE SOURCE 7:35 AM	COARSE REFUSE FILTER 8:00 AM
BOD Total 5 Day mg/l SM507	8.2	24.0	6.2	3.2	6.0
Iron, Fe (Tot) mg/l SM310B	.140	.080	.270	5.000	10.900
Manganese, Mn (Tot) mgl SM314A	.032	.040	.760	1.480	1.730
Oil and Grease mg/l SM503A	.5	<.1	<.1	<.1	<.1
Sulfate, SO4 mg/l SM427C	560	680	2,700	2,620	2,600
Suspended Solids mg/l SM 209D	16.0	15.0	13.0	50.0	31.0
Total Dis. Solids mg/l SM208C	1,422	1,391	4,572	4,517	4,545
pH Units SM424	8.20	8.40	7.80	7.30	7.70

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

#172

DATE: 06/23/83

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX U
SUNNYSIDE, UTAH
84539

83-004906

SAMPLE: WATER SAMPLES RECEIVED 6-8-83 FOR SCHEDULE "A" ANALYSIS UNDER P.O. 280-71064.

	004	#16 NORTH SPRING	WM. DRAW RUNOFF	WM. DRAW SPRING
BOD Total 5 Day mg/l SM507	8.5	9.5	10.0	11.5
Iron, Fe (Tot) mg/l SM310B	1.300	.310	.130	.020
Manganese, Mn (Tot) mgl SM314A	1.100	.008	.018	.003
Oil and Grease mg/l SM503A	.6	1.0	<.2	<.2
Sulfate, SO_4 mg/l SM427C	1,060	138	310	595
Suspended Solids mg/l SM 209D	29.0	13.0	17.0	15.0
Total Dis. Solids mg/l SM208C	2,034	634	1,209	1,436
pH Units SM424	7.80	8.20	8.20	7.90

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 06/14/83

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

83-004843

SAMPLE: WATER SAMPLE COLLECTED 5-31-83 RECEIVED 6-6-83 FOR SCHEDULE A ANALYSIS UNDER P.O. 280-71064.

PERMIT B
COARSE
REFUSE
3:06 PM

BOD Total 5 Day mg/l SM507	1.5
Iron, Fe (Tot) mg/l SM310B	.188
Manganese, Mn (Tot) mgl SM314A	.465
Oil and Grease mg/l SM503A	2.1
Sulfate, SO4 mg/l SM427C	2,960
Suspended Solids mg/l SM 209D	31.0
Total Dis. Solids mg/l SM208C	4,906
pH Units SM424	7.80

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

PERIOD OF ABNORMALLY HIGH RUNOFF CREEK RUNNING @ 190 CFS

DATE: 06/15/83

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

83-004740

SAMPLE: WATER SAMPLES COLLECTED 5-23-83 RECEIVED 5-27-83 FOR SCHEDULE A ANALYSIS UNDER P.O. 280-71064.

	GRASSY TRAIL #1 2:20 PM	GRASSY TRAIL #2 2:25 PM	GRASSY TRAIL #3 2:28 PM	GRASSY TRAIL #4 2:35 PM	GRASSY TRAIL #5 2:42 PM
Total 5 Day mg/l SM507	19.0	20.0	43.0	36.0	46.0
Iron, Fe mg/l SM310B	2.770	5.500	9.800	6.300	13.100
Manganese, Mn mg/l SM314A	.150	.230	.360	.290	.460
Oil and Grease mg/l SM503A	<.1	<.1	<.1	<.1	<.1
Sulfate, SO4 mg/l SM427C	74.0	76.0	85.0	82.0	94.0
Suspended Solids mg/l SM 209D	156	308	556	550	704
Total Dis. Solids mg/l SM208C	368	386	388	394	412
pH Units SM424	8.30	8.30	8.40	8.30	8.30

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-004740

	GRASSY TRAIL #6 2:47 PM
BOD Total 5 Day mg/l SM507	41.0
Iron, Fe mg/l SM310B	15.500
Manganese, Mn mg/l SM314A	.570
[illegible] and Grease mg/l SM503A	<.1
Sulfate, SO4 mg/l SM427C	94.0
Suspended Solids mg/l SM 209D	812
Total Dis. Solids mg/l SM208C	424
pH Units SM424	8.40

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/25/83

CERTIFICATE OF ANALYSIS

83-003490-02

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (2) LW GRASSY TRAIL 2:45 PM

C A T I O N S	mg/l	meq/l
Calcium, Ca mg/l SM306A	56.000	2.794
Magnesium, Mg mg/l SM313B	50.400	4.145
Sodium, Na mg/l EPA273.1	182.000	7.917
Potassium, K mg/l EPA258.1	8.500	.217

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate, HCO3 mg/l SM403	401.600	6.586
Sulfate, SO4 mg/l SM427C	380.000	7.912
Chloride, Cl mg/l SM408A	11.400	.322
Nitrate, NO3-N mg/l SM418C	.030	.000

B A L A N C E I N F O R M A T I O N

CATIONS:	15.073
ANIONS:	14.820
TOTAL:	29.893
DIFFERENCE:	.253
SIGMA:	.008

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/25/83

CERTIFICATE OF ANALYSIS

83-003490-03

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (3) UPR 3:00 PM

C A T I O N S	mg/l	meq/l
Calcium, Ca mg/l SM306A	40.000	1.996
Magnesium, Mg mg/l SM313B	57.600	4.738
Sodium, Na mg/l EPA273.1	34.800	1.514
Potassium, K mg/l EPA258.1	1.760	.045

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate, HCO3 mg/l SM403	339.800	5.573
Sulfate, SO4 mg/l SM427C	120.000	2.498
Chloride, Cl mg/l SM408A	2.100	.059
Nitrate, NO3-N mg/l SM418C	.020	.000

B A L A N C E I N F O R M A T I O N

CATIONS:	8.293
ANIONS:	8.130
TOTAL:	16.423
DIFFERENCE:	.163
SIGMA:	.009

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

#172

DATE: 05/18/83

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

83-004237

SAMPLE: WATER SAMPLES DATED 4-25-83 RECEIVED 4-29-83 FOR SCHEDULE "A" ANALYSIS UNDER P.O. 280-71064.

	COARSE REFUSE (SOURCE) 7:50 AM	COARSE REFUSE PERMIT B 9:15 AM	COARSE REFUSE FILTER 9:20 AM	002 MINE WATER 10:30 AM
BOD Total 5 Day mg/l SM507	2.4	1.6	1.5	1.8
Iron, Fe mg/l SM310B	11.200	.190	7.400	.170
Manganese, Mn mg/l SM314A	1.390	.485	1.540	.030
Oil and Grease mg/l SM503A	<.2	2.5	2.9	<.2
Sulfate, SO4 mg/l SM427C	5,950	4,050	4,850	2,010
Suspended Solids mg/l SM 209D	44.0	10.0	52.0	8.0
Total Dis. Solids mg/l SM208C	4,912	4,858	5,156	1,542
pH Units SM424	7.10	7.90	7.80	8.40

non-compliance

FORD CHEMICAL LABORATORY, INC.

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/25/83

CERTIFICATE OF ANALYSIS

$585

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
84539

83-003490

SAMPLE: WATER SAMPLES DATED 3-14-83 RECEIVED 3-17-83 FOR SCHEDULE "C" ANALYSIS UNDER P.O. 280-71064.

	COARSE REFUSE DRAIN PERMIT B	LW GRASSY TRAIL 2:45 PM	UPR 3:00 PM
Acidity as CaCO3 mg/l	4.00	<.01	<.01
Alkalinity,CaCO3 mg/l SM205	334.20	329.20	278.50
Ammonia, NH3-N mg/l SM417A	.75	1.17	.50
Antimony as Sb (Tot) mg/l	<.001	<.001	<.001
Arsenic, As (Tot) mg/l SM404C	<.001	<.001	<.001
BOD Total 5 Day mg/l SM507	1.2	3.0	<1.0
Beryllium as Be (Tot) mg/l	<.01	<.01	<.01
Bicarbonate, HCO3 mg/l SM403	407.70	401.60	339.80
Boron as B Total mg/l	1.300	.130	.050
Cadmium,Cd (Tot) mg/l SM305A	<.001	.001	<.001
Calcium, Ca mg/l SM306A	476.00	56.00	40.00
Carbonate as CO3 mg/l	<.01	<.01	<.01
Chloride, Cl mg/l SM408A	55.90	11.40	2.10

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Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-003490

	COARSE REFUSE DRAIN PERMIT B	LW GRASSY TRAIL 2:45 PM	UPR 3:00 PM
Chromium as Cr Hex,Dis mg/l	<.002	<.002	<.002
Conductivity umhos/cm SM205	7,260	1,360	650
Copper, Cu (Tot) mg/l SM308A	.020	.010	.010
Cyanide as Cn Total mg/l	.612	.172	.868
Fluoride, F mg/l SM414A&C	1.20	.52	.23
Gross Alpha pci/l	<.2	<.2	<.2
Hardness, CaCO3 mg/l SM309R	2,600	350	340
Iron, Fe (Tot) mg/l SM310B	1.260	.130	.050
Lead, Pb (Tot) mg/l SM311A	.002	.006	.003
Magnesium, Mg mg/l SM313B	338.40	50.40	57.60
Manganese,Mn (Tot) mgl SM314A	1.180	.006	<.001
Mercury, Hg (Tot) mg/l SM315A	<.0002	<.0020	<.0020
Nickel, Ni (Tot) mg/l SM249.2	<.010	.036	.014
Nitrate, NO3-N mg/l SM418C	.30	.03	.02
Nitrite as NO2-N mg/l	<.02	<.02	<.02
Oil and Grease mg/l SM503A	<.2	<.2	<.2
Phenol as mg/l	<.001	<.001	<.001

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CERTIFICATE OF ANALYSIS
83-003490

	COARSE REFUSE DRAIN PERMIT B	LW GRASSY TRAIL 2:45 PM	UPR 3:00 PM
Phosphate PO4-P Ortho mg/l	.080	.130	.080
Potassium, K mg/l EPA258.1	54.00	8.50	1.76
Selenium, Se (Tot) mg/l SM318	<.001	<.001	<.001
Silver, Ag (Tot) mg/l SM319A	<.001	<.001	<.001
Sodium, Na mg/l EPA273.1	494	182	34.8
Sulfate, SO4 mg/l SM427C	3,100	380	120
Sulfide as S mg/l	<.10	<.10	<.10
Suspended Solids mg/l SM 209D	12.0	680	76.0
Thallium as Tl (Total) mg/l	<.01	<.01	<.01
Total Dis. Solids mg/l SM208C	4,720	885	425
Total Organic Nitrogen mg/l	.18	.30	.13
Turbidity NTU	5.60	420.00	62.00
Zinc, Zn (Tot) mg/l SM323A	.005	.007	.009
pH Units SM424	7.20	7.70	8.00

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/25/83

CERTIFICATE OF ANALYSIS

83-003490-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) COARSE REFUSE DRAIN PERMIT B

C A T I O N S	mg/l	meq/l
Calcium, Ca mg/l SM306A	476.000	23.752
Magnesium, Mg mg/l SM313B	338.400	27.833
Sodium, Na mg/l EPA273.1	494.000	21.489
Potassium, K mg/l EPA258.1	54.000	1.381

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate, HCO3 mg/l SM403	407.700	6.686
Sulfate, SO4 mg/l SM427C	3100.000	64.542
Chloride, Cl mg/l SM408A	55.900	1.577
Nitrate, NO3-N mg/l SM418C	.300	.005

B A L A N C E I N F O R M A T I O N

CATIONS:	74.455
ANIONS:	72.810
TOTAL:	147.265
DIFFERENCE:	1.645
SIGMA:	.011

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 12/27/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-002040

SAMPLE: WATER SAMPLES RECEIVED 12-16-82 FOR SCHEDULE "C" ANALYSIS UNDER P.O. 280-71064.

	CS REF DRAIN 12-13-82	SLRY POND 12-14-82
Acidity as CaCO3 mg/l	25.00	<.01
Alkalinity as CaCO3 mg/l	279.80	303.80
Ammonia as NH3-N mg/l	2.64	.10
Antimony as Sb (Tot) mg/l	<.001	<.001
Arsenic as As (Tot) mg/l	<.001	<.001
BOD 5 Day mg/l	<1.0	<1.0
Beryllium as Be (Tot) mg/l	<.01	<.01
Bicarbonate as HCO3 mg/l	341.40	370.60
Boron as B Total mg/l	2.000	.310
Cadmium as Cd (Tot) mg/l	<.001	<.001
Calcium as Ca mg/l	530.00	35.50
Carbonate as CO3 mg/l	<.01	<.01
Chloride as Cl mg/l	49.20	35.00

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-002040

high iron
12-82

	CS REF DRAIN 12-13-82	SLRY POND 12-14-82	
Chromium as Cr (Hex.) mg/l	<.001	<.001	
Conductivity umhos/cm	6,600	2,100	
Copper as Cu (Total) mg/l	.020	<.001	
Cyanide as Cn Total mg/l	.005	<.001	
Fluoride as F mg/l	1.31	1.17	
Gross Alpha pci/l	<2.0	<2.0	
Hardness as CaCO3 mg/l	2,720	190	
Iron as Fe (Total) mg/l	14.200	.020	17.3
Lead as Pb (Total) mg/l	<.001	<.001	
Magnesium as Mg mg/l	370.00	34.50	
Manganese as Mn (Tot) mg/l	2.190	.020	
Mercury as Hg (Tot) mg/l	<.0001	<.0001	
Nickel as Ni (Total) mg/l	<.001	<.001	
Nitrate as NO3-N mg/l	.07	.36	
Nitrite as NO2-N mg/l	.04	.03	
Oil and Grease mg/l	<.1	.4	
Phenol as mg/l	<.001	.054	

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-002040

	CS REF DRAIN 12-13-82	SLRY POND 12-14-82
Phosphate PO4-P Ortho mg/l	.140	.150
Potassium as K mg/l	73.00	5.50
Selenium as Se (Tot) mg/l	<.001	.002
Silver as Ag (Total) mg/l	<.001	<.001
Sodium as Na mg/l	200	395
Sulfate as SO4 mg/l	2,910	700
Sulfide as S mg/l	<.01	<.01
Suspended Solids mg/l	46.0	52.0
Thallium as Tl (Total) mg/l	<.01	<.01
Total Diss. Solids mg/l	4,310	1,395
Total Organic Nitrogen mg/l	1.20	.55
Turbidity NTU	34.00	24.00
Zinc as Zn (Total) mg/l	.013	.002
pH Units	7.20	7.30

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 12/27/82

CERTIFICATE OF ANALYSIS

82-002040-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) CS REF DRAIN 12-13-82

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	530.000	26.447
Magnesium as Mg mg/l	370.000	30.433
Sodium as Na mg/l	200.000	8.700
Potassium as K mg/l	73.000	1.867

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	341.400	5.599
Sulfate as SO4 mg/l	2910.000	60.586
Chloride as Cl mg/l	49.200	1.388
Nitrate as NO3-N mg/l	.070	.001

B A L A N C E I N F O R M A T I O N

CATIONS:	67.447
ANIONS:	67.574
TOTAL:	135.021
DIFFERENCE:	.127
SIGMA:	.000

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 12/27/82

CERTIFICATE OF ANALYSIS

82-002040-02

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (2) SLRY POND 12-14-82

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	35.500	1.771
Magnesium as Mg mg/l	34.500	2.838
Sodium as Na mg/l	395.000	17.183
Potassium as K mg/l	5.500	.141

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	370.600	6.078
Sulfate as SO4 mg/l	700.000	14.574
Chloride as Cl mg/l	35.000	.987
Nitrate as NO3-N mg/l	.360	.006

B A L A N C E I N F O R M A T I O N

CATIONS:	21.933
ANIONS:	21.645
TOTAL:	43.578
DIFFERENCE:	.288
SIGMA:	.006

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 12/27/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-002039

SAMPLE: WATER SAMPLES COLLECTED 12-13-82 RECEIVED 12-16-82 FOR SCHEDULE B ANALYSIS UNDER P.O. 280-71064.

	002-P	004
Acidity as CaCO3 mg/l	<.01	<.01
Alkalinity as CaCO3 mg/l	727.00	682.00
Arsenic as As (Tot) mg/l	<.001	<.001
BOD 5 Day mg/l	<1.0	<1.0
Chloride as Cl mg/l	34.90	43.00
Copper as Cu (Total) mg/l	<.001	.010
Iron as Fe (Total) mg/l	.160	.270
Manganese as Mn (Tot) mg/l	.045	.025
Nitrate as NO3-N mg/l	.23	.26
Oil and Grease mg/l	2.0	1.6
Selenium as Se (Tot) mg/l	.002	.002
Silver as Ag (Total) mg/l	<.001	<.001
Sulfate as SO4 mg/l	480	360

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Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-002039

	002-P	004
Suspended Solids mg/l	16.0	26.0
Total Diss. Solids mg/l	1,500	1,425
pH Units	7.20	7.10

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Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

RECEIVED
NOV 23 1982
KAISER STEEL
SUNNYSIDE, UTAH

DATE: 12/02/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-009592

Inv 6324
$390.00

SAMPLE: WATER SAMPLES COLLECTED 11-8-82 RECEIVED 11-12-82 FOR SCHEDULE "C" ANALYSIS UNDER P.O. 280-71064.

	L-CS-REF -DRN	ICELANDER
Acidity as CaCO3 mg/l	25.00	<.01
Alkalinity as CaCO3 mg/l	351.00	337.00
Ammonia as NH3-N mg/l	3.30	.25
Antimony as Sb (Tot) mg/l	<.001	<.001
Arsenic as As (Tot) mg/l	.002	.002
BOD 5 Day mg/l	2.0	1.5
Beryllium as Be (Tot) mg/l	<.001	<.001
Bicarbonate as HCO3 mg/l	428.20	411.10
Boron as B Total mg/l	.310	.400
Cadmium as Cd (Tot) mg/l	<.001	<.001
Calcium as Ca mg/l	492.00	268.00
Carbonate as CO3 mg/l	<.01	<.01
Chloride as Cl mg/l	62.00	48.90

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

High iron values

CERTIFICATE OF ANALYSIS
82-009592

	L-CS-REF -DRN	ICELANDER
Chromium as Cr (Hex.) mg/l	<.001	<.001
Conductivity umhos/cm	7,680	4,400
Copper as Cu (Total) mg/l	.020	.010
Cyanide as Cn Total mg/l	<.001	.019
Fluoride as F mg/l	1.04	.52
Gross Alpha pci/l	<.2	<.2
Hardness as CaCO3 mg/l	2,740	1,590
Iron as Fe (Total) mg/l	26.500	.250
Lead as Pb (Total) mg/l	.002	<.001
Magnesium as Mg mg/l	362.40	220.40
Manganese as Mn (Tot) mg/l	2.510	.275
Mercury as Hg (Tot) mg/l	.0006	.0003
Nickel as Ni (Total) mg/l	<.001	<.001
Nitrate as NO3-N mg/l	.37	1.16
Nitrite as NO2-N mg/l	.02	.04
Oil and Grease mg/l	<1.0	<1.0
Phenol Mg/l	<.001	<.001

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-009592

	L-CS-REF -DRN	ICELANDER
Phosphate PO4-P Ortho mg/l	.070	.070
Potassium as K mg/l	69.00	32.50
Selenium as Se (Tot) mg/l	.002	<.001
Silver as Ag (Total) mg/l	<.001	<.001
Sodium as Na mg/l	489	305
Sulfate as SO4 mg/l	3,300	1,794
Sulfide as S mg/l	<.01	<.01
Suspended Solids mg/l	36.0	21.0
Thallium as Tl (Total) mg/l	<.01	<.01
Total Diss. Solids mg/l	4,990	2,875
Total Organic Nitrogen mg/l	.15	.21
Turbidity NTU	130.00	1.20
Zinc as Zn (Total) mg/l	.010	.005
pH Units	7.10	7.20

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 12/02/82

CERTIFICATE OF ANALYSIS

82-009592-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) L-CS-REF -DRN

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	492.000	24.551
Magnesium as Mg mg/l	362.400	29.807
Sodium as Na mg/l	489.000	21.272
Potassium as K mg/l	69.000	1.764

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	428.200	7.022
Sulfate as SO4 mg/l	3300.000	68.706
Chloride as Cl mg/l	62.000	1.749
Nitrate as NO3-N mg/l	.370	.006

B A L A N C E I N F O R M A T I O N

CATIONS:	77.394
ANIONS:	77.483
TOTAL:	154.877
DIFFERENCE:	.089
SIGMA:	.000

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 12/02/82

CERTIFICATE OF ANALYSIS

82-009592-02

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (2) ICELANDER

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	268.000	13.373
Magnesium as Mg mg/l	220.400	18.128
Sodium as Na mg/l	305.000	13.268
Potassium as K mg/l	32.500	.831

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	411.100	6.742
Sulfate as SO4 mg/l	1794.000	37.351
Chloride as Cl mg/l	48.900	1.379
Nitrate as NO3-N mg/l	1.160	.019

B A L A N C E I N F O R M A T I O N

CATIONS:	45.600
ANIONS:	45.491
TOTAL:	91.091
DIFFERENCE:	.109
SIGMA:	.001

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 11/26/82

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

CERTIFICATE OF ANALYSIS

82-009591 Inv # 6167 # 86

SAMPLE: WWATER SAMPLES COLLECTED 11-8-82 RECEIVED 11-12-82 FOR SCHEDULE A ANALYSIS UNDER P.O. 280-71064.

	002 P	004
BOD 5 Day mg/l	3.0	3.3
Iron as Fe (Total) mg/l	.250	.580
Manganese as Mn (Tot) mg/l	.070	.095
Oil and Grease mg/l	<.1	6.0
Sulfate as SO4 mg/l	510	720
Suspended Solids mg/l	6.0	10.0
Total Diss. Solids mg/l	1,480	1,435
pH Units	7.20	7.20

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 11/10/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-005708

Inv #5735
$390

SAMPLE: WATER SAMPLES COLLECTED 10-19-82 RECEIVED 10-22-82 FOR SCHEDULE C ANALYSIS UNDER P.O. 280-71064.

	002 P	004
Acidity as CaCO3 mg/l	<.01	<.01
Alkalinity as CaCO3 mg/l	882.00	755.00
Ammonia as NH3-N mg/l	.32	.26
Antimony as Sb (Tot) mg/l	<.001	<.001
Arsenic as As (Tot) mg/l	<.001	<.001
BOD 5 Day mg/l	9.2	10.0
Beryllium as Be (Tot) mg/l	<.001	<.001
Bicarbonate as HCO3 mg/l	1,076.00	921.10
Boron as B Total mg/l	.350	.060
Cadmium as Cd (Tot) mg/l	<.001	<.001
Calcium as Ca mg/l	38.40	34.40
Carbonate as CO3 mg/l	<.01	<.01
Chloride as Cl mg/l	29.70	43.00

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-005708

	002 P	004
Chromium as Cr (Hex.) mg/l	<.001	<.001
Conductivity umhos/cm	2,000	2,030
Copper as Cu (Total) mg/l	.010	.020
Cyanide as Cn Total mg/l	.049	.024
Fluoride as F mg/l	1.04	1.09
Gross Alpha pci/l	<2.0	<2.0
Hardness as CaCO3 mg/l	250	234
Iron as Fe (Total) mg/l	.280	.250
Lead as Pb (Total) mg/l	<.001	<.001
Magnesium as Mg mg/l	36.96	35.52
Manganese as Mn (Tot) mg/l	.060	.030
Mercury as Hg (Tot) mg/l	<.0002	<.0002
Nickel as Ni (Total) mg/l	<.001	<.001
Nitrate as NO3-N mg/l	.22	.21
Nitrite as NO2-N mg/l	.03	.02
Oil and Grease mg/l	1.2	16.8
Phenol as mg/l	.008	.012

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-005708

	002 P	004
Phosphate PO4-P Ortho mg/l	.120	.230
Potassium as K mg/l	5.70	5.30
Selenium as Se (Tot) mg/l	<.001	<.001
Silver as Ag (Total) mg/l	<.001	<.001
Sodium as Na mg/l	422	419
Sulfate as SO4 mg/l	237	320
Sulfide as S mg/l	.12	.53
Suspended Solids mg/l	20.0	24.0
Thallium as Tl (Total) mg/l	<.01	<.01
Total Diss. Solids mg/l	1,322	1,350
Total Organic Nitrogen mg/l	.65	.88
Turbidity NTU	.48	18.00
Zinc as Zn (Total) mg/l	.005	.008
pH Units	7.60	7.70

FORD CHEMICAL LABORATORY, INC.

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 11/10/82

CERTIFICATE OF ANALYSIS

82-005708-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) 002 P

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	38.400	1.916
Magnesium as Mg mg/l	36.960	3.040
Sodium as Na mg/l	422.100	18.361
Potassium as K mg/l	5.700	.146

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	1076.000	17.646
Sulfate as SO4 mg/l	237.000	4.934
Chloride as Cl mg/l	29.700	.838
Nitrate as NO3-N mg/l	.220	.004

B A L A N C E I N F O R M A T I O N

CATIONS:	23.463
ANIONS:	23.422
TOTAL:	46.885
DIFFERENCE:	.041
SIGMA:	.000

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 11/10/82

CERTIFICATE OF ANALYSIS

82-005708-02

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (2) 004

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	34.400	1.717
Magnesium as Mg mg/l	35.520	2.922
Sodium as Na mg/l	419.600	18.253
Potassium as K mg/l	5.300	.136

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	921.100	15.106
Sulfate as SO4 mg/l	320.000	6.662
Chloride as Cl mg/l	43.000	1.213
Nitrate as NO3-N mg/l	.210	.003

B A L A N C E I N F O R M A T I O N

CATIONS:	23.028
ANIONS:	22.984
TOTAL:	46.012
DIFFERENCE:	.044
SIGMA:	.000

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 10/14/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-005154

Inv #5091
#390

SAMPLE: WATER SAMPLES COLLECTED 9-15-82 RECEIVED 9-17-82 FOR SCHEDULE "C" ANALYSIS UNDER P.O. 280-71064.

	UPR	LWR
Acidity as CaCO3 mg/l	<.01	<.01
Alkalinity as CaCO3 mg/l	372.00	599.00
Ammonia as NH3-N mg/l	<.01	.29
Antimony as Sb (Tot) mg/l	<.001	<.001
Arsenic as As (Tot) mg/l	<.001	<.001
BOD 5 Day mg/l	3.5	3.0
Beryllium as Be (Tot) mg/l	<.01	<.01
Bicarbonate as HCO3 mg/l	453.80	730.80
Boron as B Total mg/l	.120	.133
Cadmium as Cd (Tot) mg/l	<.001	<.001
Calcium as Ca mg/l	48.00	38.40
Carbonate as CO3 mg/l	<.01	<.01
Chloride as Cl mg/l	4.40	24.70

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-005154

	UPR	LWR
Chromium as Cr (Hex.) mg/l	<.001	<.001
Conductivity umhos/cm	660	1,250
Copper as Cu (Total) mg/l	<.001	<.001
Cyanide as Cn Total mg/l	.022	.007
Fluoride as F mg/l	.19	.60
Gross Alpha pci/l	<.2	<.2
Hardness as CaCO3 mg/l	290	284
Iron as Fe (Total) mg/l	.085	.044
Lead as Pb (Total) mg/l	<.001	<.001
Magnesium as Mg mg/l	40.80	45.12
Manganese as Mn (Tot) mg/l	.003	.015
Mercury as Hg (Tot) mg/l	<.0002	<.0002
Nickel as Ni (Total) mg/l	<.001	<.001
Nitrate as NO3-N mg/l	.25	.42
Nitrite as NO2-N mg/l	<.01	.05
Oil and Grease mg/l	.8	1.0
Phenol as mg/l	<.001	<.001

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-005154

	UPR	LWR
Phosphate PO4-P Ortho mg/l	.090	.065
Potassium as K mg/l	5.66	4.30
Selenium as Se (Tot) mg/l	<.001	<.001
Silver as Ag (Total) mg/l	<.001	<.001
dium as Na mg/l	62.0	215
Sulfate as SO4 mg/l	45.0	120
Sulfide as S mg/l	.20	.15
Suspended Solids mg/l	124	34.0
Thallium as Tl (Total) mg/l	<.01	<.01
Total Diss. Solids mg/l	430	819
Total Organic Nitrogen mg/l	<.01	.15
Turbidity NTU	1.00	1.40
Zinc as Zn (Total) mg/l	.002	.004
pH Units	7.90	7.85

FORD CHEMICAL LABORATORY, INC.

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 10/14/82

CERTIFICATE OF ANALYSIS

82-005154-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) UPR

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	48.000	2.395
Magnesium as Mg mg/l	40.800	3.356
Sodium as Na mg/l	62.000	2.697
Potassium as K mg/l	5.660	.145

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	453.800	7.442
Sulfate as SO4 mg/l	45.000	.937
Chloride as Cl mg/l	4.400	.124
Nitrate as NO3-N mg/l	.250	.004

B A L A N C E I N F O R M A T I O N

CATIONS:	8.593
ANIONS:	8.507
TOTAL:	17.100
DIFFERENCE:	.086
SIGMA:	.005

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 10/14/82

CERTIFICATE OF ANALYSIS

82-005154-02

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (2) LWR

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	38.400	1.916
Magnesium as Mg mg/l	45.120	3.711
Sodium as Na mg/l	215.000	9.353
Potassium as K mg/l	4.300	.110

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	730.800	11.985
Sulfate as SO4 mg/l	120.000	2.498
Chloride as Cl mg/l	24.700	.697
Nitrate as NO3-N mg/l	.420	.007

B A L A N C E I N F O R M A T I O N

CATIONS:	15.090
ANIONS:	15.187
TOTAL:	30.277
DIFFERENCE:	.097
SIGMA:	.003

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 10/14/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-005132 Jw 5092 #390

SAMPLE: WATER SAMPLES COLLECTED 9-15-82 RECEIVED 9-17-82 FOR SCHEDULE "C" ANALYSIS UNDER P.O. 280-71064.

	002-P	004
Acidity as CaCO3 mg/l	<.01	<.01
Alkalinity as CaCO3 mg/l	778.00	676.00
Ammonia as NH3-N mg/l	.29	.56
Antimony as Sb (Tot) mg/l	<.001	<.001
Arsenic as As (Tot) mg/l	.002	.002
BOD 5 Day mg/l	4.0	12.0
Beryllium as Be (Tot) mg/l	<.01	<.01
Bicarbonate as HCO3 mg/l	949.20	824.70
Boron as B Total mg/l	.065	.080
Cadmium as Cd (Tot) mg/l	<.001	<.001
Calcium as Ca mg/l	54.40	48.80
Carbonate as CO3 mg/l	<.01	<.01
Chloride as Cl mg/l	35.70	65.90

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-005132

	002-P	004
Chromium as Cr (Hex.) mg/l	<.001	<.001
Conductivity umhos/cm	2,250	1,850
Copper as Cu (Total) mg/l	.010	<.001
Cyanide as Cn Total mg/l	.010	.052
Fluoride as F mg/l	1.01	1.16
Gross Alpha pci/l	<.2	<.2
Hardness as CaCO3 mg/l	298	276
Iron as Fe (Total) mg/l	.265	.285
Lead as Pb (Total) mg/l	<.001	<.001
Magnesium as Mg mg/l	38.88	36.96
Manganese as Mn (Tot) mg/l	.040	.050
Mercury as Hg (Tot) mg/l	<.0002	<.0002
Nickel as Ni (Total) mg/l	<.001	.027
Nitrate as NO3-N mg/l	.77	.78
Nitrite as NO2-N mg/l	<.01	.03
Oil and Grease mg/l	4.0	45.4
Phenol as mg/l	.034	<.001

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-005132

	002-P	004
Phosphate PO4-P Ortho mg/l	.170	.770
Potassium as K mg/l	6.30	5.90
Selenium as Se (Tot) mg/l	<.001	<.001
Silver as Ag (Total) mg/l	<.001	<.001
dium as Na mg/l	440	405
Sulfate as SO4 mg/l	420	390
Sulfide as S mg/l	.47	<.10
Suspended Solids mg/l	52.0	36.0
Thallium as Tl (Total) mg/l	<.01	<.01
Total Diss. Solids mg/l	1,470	1,185
Total Organic Nitrogen mg/l	.10	.33
Turbidity NTU	5.10	90.00
Zinc as Zn (Total) mg/l	.050	.038
pH Units	7.90	8.10

FORD CHEMICAL LABORATORY, INC.

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 10/14/82

CERTIFICATE OF ANALYSIS

82-005132-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) 002-P

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	54.400	2.715
Magnesium as Mg mg/l	38.880	3.198
Sodium as Na mg/l	440.000	19.140
Potassium as K mg/l	6.300	.161

N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	949.200	15.567
Sulfate as SO4 mg/l	420.000	8.744
Chloride as Cl mg/l	35.700	1.007
Nitrate as NO3-N mg/l	.770	.013

B A L A N C E I N F O R M A T I O N

CATIONS:	25.214
ANIONS:	25.331
TOTAL:	50.545
DIFFERENCE:	.117
SIGMA:	.002

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 10/14/82

CERTIFICATE OF ANALYSIS

82-005132-02

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (2) 004

CATIONS	mg/l	meq/l
Calcium as Ca mg/l	48.800	2.435
Magnesium as Mg mg/l	36.960	3.040
Sodium as Na mg/l	405.000	17.618
Potassium as K mg/l	5.900	.151

ANIONS	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	824.700	13.525
Sulfate as SO4 mg/l	390.000	8.120
Chloride as Cl mg/l	65.900	1.859
Nitrate as NO3-N mg/l	.780	.013

BALANCE INFORMATION

CATIONS:	23.244
ANIONS:	23.517
TOTAL:	46.761
DIFFERENCE:	.273
SIGMA:	.005

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 09/21/82
CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-004699

Inv #4629
@ 162.00

SAMPLE: WATER SAMPLES COLLECTED 8-23-82 RECEIVED 8-24-82 FOR SCHEDULE B ANALYSIS UNDER P.O. 280-71064.

	002-P	004
Acidity as CaCO3 mg/l	7.50	<.01
Alkalinity as CaCO3 mg/l	774.00	669.00
Arsenic as As (Tot) mg/l	<.001	<.001
BOD 5 Day mg/l	12.0	10.0
Chloride as Cl mg/l	31.60	36.10
Copper as Cu (Total) mg/l	.010	.010
Iron as Fe (Total) mg/l	.460	.230
Manganese as Mn (Tot) mg/l	.075	.030
Nitrate as NO3-N mg/l	.31	.35
Oil and Grease mg/l	1.4	14.0
Selenium as Se (Tot) mg/l	.003	.003
Silver as Ag (Total) mg/l	.002	.002
Sulfate as SO4 mg/l	224	188

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

82-004699

	002-P	004
Suspended Solids mg/l	22.0	8.0
Total Diss. Solids mg/l	1,500	1,500
pH Units	7.60	7.50

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 07/30/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-004114 Inv 3702 $86.00

SAMPLE: WATER SAMPLES COLLECTED 7-14-82 RECEIVED 7-16-82 FOR SCHEDULE "A" ANALYSIS UNDER P.O. 280-71064.

	002 P	004
BOD 5 Day mg/l	7.1	6.0
Iron as Fe (Total) mg/l	.170	.430
Manganese as Mn (Tot) mg/l	.175	.295
Oil and Grease mg/l	1.2	.8
Sulfate as SO4 mg/l	436	440
Suspended Solids mg/l	6.0	2.0
Total Diss. Solids mg/l	1,475	1,450
pH Units	7.60	7.80

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 06/28/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-003625

DLV #2899
$243.00

SAMPLE: WATER SAMPLES COLLECTED 6-15-82 RECEIVED 6-16-82 FOR SCHEDULE B ANALYSIS UNDER P.O. 280-71064.

	002 P	LWR	UPR
Acidity as CaCO3 mg/l	<.01	<.01	<.01
Alkalinity as CaCO3 mg/l	614.00	341.30	283.70
Arsenic as As (Tot) mg/l	<.001	<.001	<.001
BOD 5 Day mg/l	4.0	4.1	7.0
Chloride as Cl mg/l	30.40	3.50	3.70
Copper as Cu (Total) mg/l	.011	.009	.005
Iron as Fe (Total) mg/l	.036	.058	.022
Manganese as Mn (Tot) mg/l	.110	.025	.020
Nitrate as NO3-N mg/l	.12	<.01	<.01
Oil and Grease mg/l	.6	.2	1.8
Selenium as Se (Tot) mg/l	<.001	<.001	<.001
Silver as Ag (Total) mg/l	<.001	<.001	<.001
Sulfate as SO4 mg/l	360	96.0	30.0

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-003625

	002 P	LWR	UPR
Suspended Solids mg/l	22.0	34.0	10.0
Total Diss. Solids Mg/l	1,448	468	336
pH Units	7.50	7.80	8.10

FORD CHEMICAL LABORATORY, INC.

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 06/03/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-003136 INV. #2437 #86

SAMPLE: WATER SAMPLES COLLECTED 5-10-82 RECEIVED 5-21-82 FOR SCHEDULE A ANALYSIS UNDER P.O. 280-71064.

	002-P	004
BOD 5 Day mg/l	1.5	1.0
Iron as Fe (Total) mg/l	.099	.112
Manganese as Mn (Tot) mg/l	.021	.086
Oil and Grease mg/l	<.1	<.1
Sulfate as SO4 mg/l	450	450
Suspended Solids mg/l	10.0	4.0
Total Diss. Solids Mg/l	1,470	1,400
pH Units	7.85	8.00

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 06/03/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-003135 INV # 2436 #81e

SAMPLE: WATER SAMPLE LABELED SO. BM POND COLLECTED 5-10-82 RECEIVED 5-21-82 FOR SCHEDULE B ANALYSIS UNDER P.O. 280-71064.

RESULTS

Acidity as CaCO3 mg/l	18.00
Alkalinity as CaCO3 mg/l	487.00
Arsenic as As (Tot) mg/l	<.001
BOD 5 Day mg/l	1.2
Chloride as Cl mg/l	56.90
Copper as Cu (Total) mg/l	.022
Iron as Fe (Total) mg/l	.050
Manganese as Mn (Tot) mg/l	.042
Nitrate as NO3-N mg/l	2.32
Oil and Grease mg/l	3.4
Selenium as Se (Tot) mg/l	<.001
Silver as Ag (Total) mg/l	.003
Sulfate as SO4 mg/l	1,500

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

82-003135

	RESULTS
Suspended Solids mg/l	14.0
Total Diss. Solids Mg/l	4,726
pH Units	7.65

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SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 05/14/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-002699

SAMPLE: WATER SAMPLE COLLECTED 4-19-82, RECEIVED 4-21-82 FOR SCHEDULE B ANALYSIS. UNDER P.O. #280-71064.

	SO. BM POND
Acidity as CaCO3 mg/l	28.00
Alkalinity as CaCO3 mg/l	252.00
Arsenic as As (Tot) mg/l	<.001
BOD 5 Day mg/l	1.3
Chloride as Cl mg/l	68.00
Copper as Cu (Total) mg/l	.020
Iron as Fe (Total) mg/l	.050
Manganese as Mn (Tot) mg/l	.080
Nitrate as NO3-N mg/l	2.76
Oil and Grease mg/l	1.4
Selenium as Se (Tot) mg/l	<.001
Silver as Ag (Total) mg/l	<.001
Sulfate as SO4 mg/l	390

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Bacteriological and Chemical Analysis
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SALT LAKE CITY, UTAH 84115
PHONE 466-8761

82-003692

CERTIFICATE OF ANALYSIS

	SO. BM POND
Suspended Solids mg/l	6.0
Total Diss. Solids Mg/l	3,500
pH Units	7.70

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Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 05/14/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-002698 INV #1972 #860

SAMPLE: WATER SAMPLES COLLECTED 4-19-82, RECEIVED 4-21-82 FOR SCHEDULE A ANALYSIS. UNDER P.O. #280-71064.

	002 P	004
BOD 5 Day mg/l	3.3	1.8
Iron as Fe (Total) mg/l	.030	.280
Manganese as Mn (Tot) mg/l	.090	.070
Oil and Grease mg/l	1.2	3.0
Sulfate as SO4 mg/l	3,240	510
Suspended Solids mg/l	8.0	4.0
Total Diss. Solids Mg/l	1,500	1,500
pH Units	7.60	7.80

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/08/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-002342

INV. #1228
$776.00
(PA/ea)

SAMPLE: WATER SAMPLES COLLECTED 3-24-82 RECEIVED 3-25-82 FOR SCHEDULE "C" ANALYSIS UNDER P.O. 280-71064.

	ICELANDER	LWR	UPR	SOUTH BM. POND
Acidity as CaCO3 mg/l	<.01	<.01	<.01	4.00
Alkalinity as CaCO3 mg/l	282.20	653.00	286.10	326.40
Ammonia as NH3-N mg/l	.90	.10	.06	.04
Antimony as Sb (Tot) mg/l	<.001	<.001	<.001	<.001
Arsenic as As (Tot) mg/l	.002	.002	<.001	.005
BOD 5 Day mg/l	8.6	9.0	11.0	12.0
Beryllium as Be (Tot) mg/l	.02	<.01	<.01	<.01
Bicarbonate as HCO3 mg/l	344.30	503.90	349.00	398.20
Boron as B Total mg/l	.415	.115	.123	.410
Cadmium as Cd (Tot) mg/l	<.001	<.001	<.001	<.001
Calcium as Ca mg/l	420.00	30.00	52.50	51.00
Carbonate as CO3 mg/l	<.01	144.00	<.01	<.01
Chloride as Cl mg/l	47.90	30.40	3.50	72.90

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SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-002342

	ICELANDER	LWR	UPR	SOUTH BM. POND
Chromium as Cr (Hex.) mg/l	.002	<.001	<.001	<.001
Conductivity umhos/cm	6,000	1,450	490	5,600
Copper as Cu (Total) mg/l	.020	.010	<.001	.020
Cyanide as Cn mg/l	.01	.01	.01	.01
Fluoride as F mg/l	2.48	1.56	.36	.62
Gross Alpha pci/l	<.2	<.2	<.2	<.2
Hardness as CaCO3 mg/l	2,930	540	370	2,570
Iron as Fe (Total) mg/l	.260	.060	.020	.060
Lead as Pb (Total) mg/l	.004	<.001	<.001	.003
Magnesium as Mg mg/l	490.00	47.00	41.00	35.00
Manganese as Mn (Tot) mg/l	1.440	.010	.010	.050
Mercury as Hg (Tot) mg/l	<.0002	<.0002	<.0002	<.0002
Nickel as Ni (Total) mg/l	<.001	<.001	<.001	<.001
Nitrate as NO3-N mg/l	.10	.11	.08	3.15
Nitrite as NO2-N mg/l	.06	.03	.04	.03
Oil and Grease mg/l	<1.0	<1.0	<1.0	<1.0
Phenol as mg/l	.015	<.001	<.001	.038

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PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-002342

	ICELANDER	LWR	UPR	SOUTH BM. POND
Phosphate PO4-P Ortho mg/l	.120	.100	.070	.130
Potassium as K mg/l	3.54	5.65	4.21	8.25
Selenium as Se (Tot) mg/l	<.001	.001	.001	.003
Silver as Ag (Total) mg/l	<.001	<.001	<.001	<.001
Sodium as Na mg/l	65.0	210	9.0	1,100
Sulfate as SO4 mg/l	2,730	30.0	30.0	2,200
Sulfide as S mg/l	1.11	.40	1.41	.94
Suspended Solids mg/l	46.0	12.0	4.0	28.0
Thallium as Tl (Total) mg/l	<.01	<.01	<.01	<.01
Total Diss. Solids Mg/l	3,925	930	320	3,650
Total Organic Nitrogen mg/l	.15	.10	.05	.20
Turbidity NTU	1.00	1.00	.80	.60
Zinc as Zn (Total) mg/l	.002	.001	.001	.005
pH Units	7.40	7.50	7.70	7.80

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Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/08/82

CERTIFICATE OF ANALYSIS

82-002342-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) ICELANDER

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	420.000	20.958
Magnesium as Mg mg/l	490.000	40.303
Sodium as Na mg/l	65.000	2.828
Potassium as K mg/l	3.540	.091

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	344.300	5.647
Sulfate as SO4 mg/l	2730.000	56.839
Chloride as Cl mg/l	47.900	1.351
Nitrate as NO3-N mg/l	.100	.002

B A L A N C E I N F O R M A T I O N

CATIONS:	64.180
ANIONS:	63.839
TOTAL:	128.019
DIFFERENCE:	.341
SIGMA:	.002

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/08/82

CERTIFICATE OF ANALYSIS

82-002342-02

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (2) LWR

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	30.000	1.497
Magnesium as Mg mg/l	47.000	3.866
Sodium as Na mg/l	210.000	9.135
Potassium as K mg/l	5.650	.144

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	144.000	4.800
Bicarbonate as HCO3 mg/l	503.900	8.264
Sulfate as SO4 mg/l	30.000	.625
Chloride as Cl mg/l	30.400	.858
Nitrate as NO3-N mg/l	.110	.002

B A L A N C E I N F O R M A T I O N

CATIONS:	14.642
ANIONS:	14.549
TOTAL:	29.191
DIFFERENCE:	.093
SIGMA:	.003

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PHONE 466-8761

DATE: 04/08/82

CERTIFICATE OF ANALYSIS

82-002342-03

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (3) UPR

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	52.500	2.620
Magnesium as Mg mg/l	41.000	3.372
Sodium as Na mg/l	9.000	.392
Potassium as K mg/l	4.210	.108

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	349.000	5.724
Sulfate as SO4 mg/l	30.000	.625
Chloride as Cl mg/l	3.500	.099
Nitrate as NO3-N mg/l	.080	.001

B A L A N C E I N F O R M A T I O N

CATIONS:	6.492
ANIONS:	6.449
TOTAL:	12.941
DIFFERENCE:	.043
SIGMA:	.003

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SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/08/82

CERTIFICATE OF ANALYSIS

82-002342-04

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (4) SOUTH BM. POND

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	51.000	2.545
Magnesium as Mg mg/l	35.000	2.879
Sodium as Na mg/l	1100.000	47.850
Potassium as K mg/l	8.250	.211

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	398.200	6.530
Sulfate as SO4 mg/l	2200.000	45.804
Chloride as Cl mg/l	72.900	2.057
Nitrate as NO3-N mg/l	3.150	.051

B A L A N C E I N F O R M A T I O N

CATIONS:	53.485
ANIONS:	54.442
TOTAL:	107.927
DIFFERENCE:	.957
SIGMA:	.008

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/07/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-002341 INV #1227 $162-

SAMPLE: WATER SAMPLES COLLECTED 3-24-82 RCEIVED 3-25-82 FOR SCHEDULE "B" ANALYSIS UNDER P.O. 280-71064.

	002-P	004
Acidity as CaCO3 mg/l	2.00	<.01
Alkalinity as CaCO3 mg/l	794.00	798.00
Arsenic as As (Tot) mg/l	.002	.003
BOD 5 Day mg/l	17.0	18.0
Chloride as Cl mg/l	38.40	34.50
Copper as Cu (Total) mg/l	.010	<.001
Iron as Fe (Total) mg/l	.060	.330
Manganese as Mn (Tot) mg/l	.020	.090
Nitrate as NO3-N mg/l	.06	.12
Oil and Grease mg/l	<1.0	2.6
Selenium as Se (Tot) mg/l	.002	.001
Silver as Ag (Total) mg/l	<.001	<.001
Sulfate as SO4 mg/l	450	570

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-002341

	002-P	004
Suspended Solids mg/l	2.0	12.0
Total Diss. Solids Mg/l	1,510	1,490
pH Units	7.90	8.00

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Bacteriological and Chemical Analysis
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SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/06/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-002311

DW #1230
#120

go. 3m. antelope
ICELANDER

SAMPLE: WATER SAMPLE LABELED POND COLLECTED 3-17-82 RECEIVED 3-23-82 FOR SCHEDULE C ANALYSIS. UNDER P.O. #280-71064.

Acidity as CaCO3 mg/l	2.00	Alkalinity as CaCO3 mg/l	522.00
Ammonia as NH3-N mg/l	.15	Arsenic as As mg/l	.001
Barium as Ba mg/l	.040	Bicarbonate as HCO3 mg/l	636.80
Boron as B mg/l	.700	Cadmium as Cd mg/l	<.001
Calcium as Ca mg/l	530.00	Carbonate as CO3 mg/l	<.01
Chloride as Cl mg/l	83.10	Chromium as Cr (Hex.) mg/l	<.001
Chromium as Cr (Tot) mg/l	.002	Conductivity umhos/cm	7,400
Copper as Cu mg/l	.030	Fluoride as F mg/l	.38
Hardness as CaCO3 mg/l	2,700	Hydroxide as OH mg/l	<.01
Iron as Fe (Dissolved) mg/l	.140	Iron as Fe (Total) mg/l	.230
Lead as Pb mg/l	<.001	Magnesium as Mg mg/l	355.00
Manganese as Mn mg/l	.040	Mercury as Hg mg/l	<.00020
Nickel as Ni mg/l	<.001	Nitrate as NO3-N mg/l	7.70
Nitrite as NO2-N mg/l	.03	Oil and Grease mg/l	<1.0
Phosphate PO4-P Ortho mg/l	.250	Potassium as K mg/l	18.50

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PHONE 466-8761

CERTIFICATE OF ANALYSIS

Selenium as Se mg/l	.003	Silica as SiO2 Diss. Mg/l	20.70
Silver as Ag mg/l	<.001	Sodium as Na mg/l	490
Sulfate as SO4 mg/l	3,065	Suspended Solids mg/l	42.0
Total Diss. Solids Mg/l	4,886	Turbidity NTU	.34
Zinc as Zn mg/l	.005	pH Units	7.80

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Bacteriological and Chemical Analysis
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SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/06/82

CERTIFICATE OF ANALYSIS

82-002311-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) RESULTS

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	530.000	26.447
Magnesium as Mg mg/l	355.000	29.199
Iron as Fe (Dissolved) mg/l	.140	.005
Sodium as Na mg/l	490.000	21.315
Potassium as K mg/l	18.500	.473

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	636.800	10.444
Sulfate as SO4 mg/l	3065.000	63.813
Chloride as Cl mg/l	83.100	2.344
Nitrate as NO3-N mg/l	7.700	.126

B A L A N C E I N F O R M A T I O N

CATIONS:	77.439
ANIONS:	76.727
TOTAL:	154.166
DIFFERENCE:	.712
SIGMA:	.004

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 04/07/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-002310 INV #1229 #170

SAMPLE: WATER SAMPLES COLLECTED 3-17-82, RECEIVED 3-23-82 FOR SCHEDULE B ANALYSIS. UNDER P.O. #280-71064.

	002 P	004
Acidity as CaCO3 mg/l	<.01	4.00
Alkalinity as CaCO3 mg/l	683.00	659.00
Arsenic as As mg/l	<.001	<.001
Chloride as Cl mg/l	32.00	28.00
Conductivity umhos/cm	2,380	2,350
Iron as Fe (Dissolved) mg/l	.080	.230
Iron as Fe (Total) mg/l	.230	.300
Lead as Pb mg/l	<.001	.002
Manganese as Mn mg/l	.070	.060
Nitrate as NO3-N mg/l	.24	.39
Oil and Grease mg/l	<1.0	6.2
Phosphate PO4-P Ortho mg/l	.190	.160
Potassium as K mg/l	6.40	5.80

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-002310

	002 P	004
Selenium as Se mg/l	.002	.001
Silver as Ag mg/l	<.001	<.001
Sulfate as SO4 mg/l	480	390
Suspended Solids mg/l	8.0	10.0
Total Diss. Solids Mg/l	1,542	1,516
pH Units	7.70	7.80

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Ford Chemical
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Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

RECEIVED
MAR 12 1982
KAISER STEEL
SUNNYSIDE, UTAH

DATE: 03/09/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-002009 INV #9806 $100

SAMPLE: WATER SAMPLES COLLECTED 2-23-82, RECEIVED 2-25-82 FOR SCHEDULE "A" ANALYSIS. UNDER P.O. #280-71064.

	002 P	004
Acidity as CaCO3 mg/l	<.01	<.01
Alkalinity as CaCO3 mg/l	771.00	795.00
Arsenic as As mg/l	<.001	<.001
Iron as Fe mg/l	.050	.080
Manganese as Mn mg/l	.022	.020
Oil and Grease mg/l	<1.00	1.00
Selenium as Se mg/l	<.001	<.001
Silver as Ag mg/l	<.001	<.001
Suspended Solids mg/l	11.0	34.0
Total Diss. Solids Mg/l	1,550	1,450
pH Units	7.60	7.60

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

RECEIVED
MAR 12 1982
KAISER STEEL
SUNNYSIDE, UTAH

DATE: 03/09/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-009492 INV #9809 #20-

SAMPLE: MINE WATER SAMPLE COLLECTED 2-24-82, RECEIVED 2-25-82 FOR ANALYSIS. UNDER P.O. #280-71064.

	TIPPLE
Oil and Grease mg/l	1.20
rfactants mg/l	<.05

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 02/01/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-009082 INV #9160 $302.00

SAMPLE: WATER SAMPLES COLLECTED 1-14-82, RECEIVED 1-15-82 FOR ANALYSIS. UNDER P.O. #280-71064.

	002-P	004-P
Aluminum as Al (Total) mg/l	1.350	.860
[illegible]onia as NH3-N mg/l	3.10	2.60
Antimony as Sb (Tot) mg/l	.010	.013
BOD 5 Day mg/l	<1.0	<1.0
Beryllium as Be (Tot) mg/l	.03	.05
Bromide as Br mg/l	<.010	<.010
Chemical Oxygen Demand mg/l	5.3	4.9
Cobalt as Co (Total) mg/l	.005	.008
Color pt-co unit	10.0	15.0
Cyanide as Cn mg/l	.016	.010
Fluoride as F mg/l	1.00	1.17
Molybdenum as Mo (Tot) mg/l	.210	.150
Phosphate PO4-P Ortho mg/l	.110	.060

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SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
82-009082

	002-P	004-P
Sulfide as S Mg/l	.25	.35
Sulfite as S ppm	.05	.10
Surfactants mg/l	<.05	<.05
Thallium as Tl (Total) mg/l	.14	.15
Tin as Sn (Total) mg/l	.02	.01
Titanium as Ti (Total) mg/l	<.01	<.01
Total Chlorine mg/l	<.01	<.01
Total Organic Carbon mg/l	23.50	<.01
Total Organic Nitrogen mg/l	2.90	1.50

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Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 02/01/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-009017 INV. 9159 #100

SAMPLE: WATER SAMPLES COLLECTED 1-14-82, RECEIVED 1-15-82 FOR SCHEDULE "A" ANALYSIS. UNDER P.O. #280-71064.

	002 P	004 R
Acidity as CaCO3 mg/l	26.00	<.01
Alkalinity as CaCO3 mg/l	664.00	556.00
Arsenic as As mg/l	<.001	<.001
Iron as Fe mg/l	.165	.128
Manganese as Mn mg/l	.025	.031
Oil and Grease mg/l	3.00	10.80
Selenium as Se mg/l	.002	.003
Silver as Ag mg/l	<.001	<.001
Suspended Solids mg/l	4.0	6.5
Total Diss. Solids Mg/l	1,700	1,400
pH Units	7.90	8.10

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/21/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-008876 INV #9037 $113.00

SAMPLE: WATER SAMPLE LABELED LWR, COLLECTED 12-30-81 RECEIVED 12-31-81 FOR ANALYSIS. UNDER P.O. #280-60998.

Acidity as CaCO3 mg/l	<.01	Alkalinity as CaCO3 mg/l	512.00
Ammonia as NH3-N mg/l	1.13	Arsenic as As mg/l	.001
Barium as Ba mg/l	.025	Bicarbonate as HCO3 mg/l	556.30
Boron as B mg/l	.250	Cadmium as Cd mg/l	<.001
Calcium as Ca mg/l	38.00	Carbonate as CO3 mg/l	33.60
Chloride as Cl mg/l	44.00	Chromium as Cr (Hex.) mg/l	<.001
Chromium as Cr (Tot) mg/l	.002	Conductivity umhos/cm	1,400
Copper as Cu mg/l	.005	Fluoride as F mg/l	.88
Hardness as CaCO3 mg/l	300	Hydroxide as OH mg/l	<.01
Iron as Fe (Dissolved) mg/l	.096	Iron as Fe (Total) mg/l	.460
Lead as Pb mg/l	<.001	Magnesium as Mg mg/l	44.50
Manganese as Mn mg/l	.007	Mercury as Hg mg/l	<.00020
Nickel as Ni mg/l	<.001	Nitrate as NO3-N mg/l	.22
Nitrite as NO2-N mg/l	.02	Oil and Grease mg/l	<1.00
Phosphate PO4-P Ortho mg/l	.060	Potassium as K mg/l	1.40

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Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

Selenium as Se mg/l	.002	Silica as SiO2 Diss. Mg/l	7.24
Silver as Ag mg/l	<.001	Sodium as Na mg/l	246.00
Sulfate as SO4 mg/l	240	Suspended Solids mg/l	12.0
Total Diss. Solids Mg/l	921	Turbidity NTU	2.20
Zinc as Zn mg/l	.030	pH Units	8.60

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/21/82

CERTIFICATE OF ANALYSIS

82-008876-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) LWR

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	38.000	1.896
Magnesium as Mg mg/l	44.500	3.660
Iron as Fe (Dissolved) mg/l	.096	.003
Sodium as Na mg/l	246.000	10.701
Potassium as K mg/l	1.400	.036

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	33.600	1.120
Bicarbonate as HCO3 mg/l	556.300	9.123
Sulfate as SO4 mg/l	240.000	4.997
Chloride as Cl mg/l	44.000	1.241
Nitrate as NO3-N mg/l	.220	.004

B A L A N C E I N F O R M A T I O N

CATIONS:	16.296
ANIONS:	16.485
TOTAL:	32.781
DIFFERENCE:	.189
SIGMA:	.005

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/21/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-008875 INV #903B $113.00

SAMPLE: WATER SAMPLE LABELED UPR, COLLECTED 12-30-81 RECEIVED 12-31-81 FOR ANALYSIS. UNDER P.O. #280-60998.

Acidity as CaCO3 mg/l	<.01	Alkalinity as CaCO3 mg/l	312.00
Ammonia as NH3-N mg/l	2.36	Arsenic as As mg/l	.001
Barium as Ba mg/l	.055	Bicarbonate as HCO3 mg/l	312.30
Boron as B mg/l	.055	Cadmium as Cd mg/l	<.001
Calcium as Ca mg/l	53.00	Carbonate as CO3 mg/l	33.60
Chloride as Cl mg/l	16.00	Chromium as Cr (Hex.) mg/l	<.001
Chromium as Cr (Tot) mg/l	<.001	Conductivity umhos/cm	620
Copper as Cu mg/l	<.001	Fluoride as F mg/l	.25
Hardness as CaCO3 mg/l	370	Hydroxide as OH mg/l	<.01
Iron as Fe (Dissolved) mg/l	.044	Iron as Fe (Total) mg/l	.175
Lead as Pb mg/l	<.001	Magnesium as Mg mg/l	42.50
Manganese as Mn mg/l	.004	Mercury as Hg mg/l	<.00020
Nickel as Ni mg/l	<.001	Nitrate as NO3-N mg/l	.16
Nitrite as NO2-N mg/l	<.01	Oil and Grease mg/l	<1.00
Phosphate PO4-P Ortho mg/l	.080	Potassium as K mg/l	1.15

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

Selenium as Se mg/l	<.001	Silica as SiO2 Diss. Mg/l	14.68
Silver as Ag mg/l	<.001	Sodium as Na mg/l	36.00
Sulfate as SO4 mg/l	60.0	Suspended Solids mg/l	6.0
Total Diss. Solids Mg/l	399	Turbidity NTU	.84
Zinc as Zn mg/l	.009	pH Units	8.50

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/21/82

CERTIFICATE OF ANALYSIS

82-008875-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) UPR

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	53.000	2.645
Magnesium as Mg mg/l	42.500	3.496
Iron as Fe (Dissolved) mg/l	.044	.002
Sodium as Na mg/l	36.000	1.566
Potassium as K mg/l	1.150	.029

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	33.600	1.120
Bicarbonate as HCO3 mg/l	312.300	5.122
Sulfate as SO4 mg/l	60.000	1.249
Chloride as Cl mg/l	16.000	.451
Nitrate as NO3-N mg/l	.160	.003

B A L A N C E I N F O R M A T I O N

CATIONS:	7.738
ANIONS:	7.945
TOTAL:	15.683
DIFFERENCE:	.207
SIGMA:	.013

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/21/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-008873 INV # 9039 # 113

SAMPLE: WATER SAMPLE LABELED 002P, COLLECTED 12-30-81 RECEIVED 12-31-81 FOR ANALYSIS. UNDER P.O. #280-60998.

Acidity as CaCO3 mg/l	24.00	Alkalinity as CaCO3 mg/l	748.00
Ammonia as NH3-N mg/l	2.94	Arsenic as As mg/l	<.001
Barium as Ba mg/l	.030	Bicarbonate as HCO3 mg/l	912.60
Boron as B mg/l	.320	Cadmium as Cd mg/l	<.001
Calcium as Ca mg/l	50.00	Carbonate as CO3 mg/l	<.01
Chloride as Cl mg/l	76.00	Chromium as Cr (Hex.) mg/l	<.001
Chromium as Cr (Tot) mg/l	.003	Conductivity umhos/cm	2,000
Copper as Cu mg/l	<.001	Fluoride as F mg/l	1.15
Hardness as CaCO3 mg/l	310	Hydroxide as OH mg/l	<.01
Iron as Fe (Dissolved) mg/l	.098	Iron as Fe (Total) mg/l	.155
Lead as Pb mg/l	<.001	Magnesium as Mg mg/l	41.50
Manganese as Mn mg/l	.095	Mercury as Hg mg/l	<.00020
Nickel as Ni mg/l	<.001	Nitrate as NO3-N mg/l	.03
Nitrite as NO2-N mg/l	.01	Oil and Grease mg/l	<1.00
Phosphate PO4-P Ortho mg/l	.050	Potassium as K mg/l	1.30

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

Selenium as Se mg/l	.002	Silica as SiO2 Diss. Mg/l	8.25
Silver as Ag mg/l	.002	Sodium as Na mg/l	390.00
Sulfate as SO4 mg/l	300	Suspended Solids mg/l	8.0
Total Diss. Solids Mg/l	1,330	Turbidity NTU	1.00
Zinc as Zn mg/l	.010	pH Units	7.90

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/21/82

CERTIFICATE OF ANALYSIS

82-008873-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) 002P

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	50.000	2.495
Magnesium as Mg mg/l	41.500	3.413
Iron as Fe (Dissolved) mg/l	.098	.004
Sodium as Na mg/l	390.000	16.965
Potassium as K mg/l	1.300	.033

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	912.600	14.967
Sulfate as SO4 mg/l	300.000	6.246
Chloride as Cl mg/l	76.000	2.144
Nitrate as NO3-N mg/l	.030	.000

B A L A N C E I N F O R M A T I O N

CATIONS:	22.910
ANIONS:	23.357
TOTAL:	46.267
DIFFERENCE:	.447
SIGMA:	.009

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/21/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-008874 INV # 9036 $13.00

SAMPLE: WATER SAMPLE LABELED 004, COLLECTED 12-30-81 RECEIVED 12-31-81 FOR ANALYSIS. UNDER P.O. #280-60998.

Acidity as CaCO3 mg/l	<.01	Alkalinity as CaCO3 mg/l	512.00
Ammonia as NH3-N mg/l	2.50	Arsenic as As mg/l	<.001
Barium as Ba mg/l	.035	Bicarbonate as HCO3 mg/l	624.60
Boron as B mg/l	.310	Cadmium as Cd mg/l	<.001
Calcium as Ca mg/l	48.00	Carbonate as CO3 mg/l	<.01
Chloride as Cl mg/l	44.00	Chromium as Cr (Hex.) mg/l	<.001
Chromium as Cr (Tot) mg/l	.002	Conductivity umhos/cm	1,500
Copper as Cu mg/l	<.001	Fluoride as F mg/l	1.35
Hardness as CaCO3 mg/l	290	Hydroxide as OH mg/l	<.01
Iron as Fe (Dissolved) mg/l	.068	Iron as Fe (Total) mg/l	.115
Lead as Pb mg/l	<.001	Magnesium as Mg mg/l	38.00
Manganese as Mn mg/l	.020	Mercury as Hg mg/l	<.00020
Nickel as Ni mg/l	<.001	Nitrate as NO3-N mg/l	.09
Nitrite as NO2-N mg/l	.02	Oil and Grease mg/l	7.80
Phosphate PO4-P Ortho mg/l	.110	Potassium as K mg/l	2.20

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

Selenium as Se mg/l	.002	Silica as SiO2 Diss. Mg/l	8.49
Silver as Ag mg/l	<.001	Sodium as Na mg/l	260.00
Sulfate as SO4 mg/l	270	Suspended Solids mg/l	17.0
Total Diss. Solids Mg/l	989	Turbidity NTU	5.80
Zinc as Zn mg/l	.002	pH Units	8.20

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/21/82

CERTIFICATE OF ANALYSIS

82-008874-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) 004

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	48.000	2.395
Magnesium as Mg mg/l	38.000	3.126
Iron as Fe (Dissolved) mg/l	.068	.002
Sodium as Na mg/l	260.000	11.310
Potassium as K mg/l	2.200	.056

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	624.600	10.243
Sulfate as SO4 mg/l	270.000	5.621
Chloride as Cl mg/l	44.000	1.241
Nitrate as NO3-N mg/l	.090	.001

B A L A N C E I N F O R M A T I O N

CATIONS:	16.889
ANIONS:	17.106
TOTAL:	33.995
DIFFERENCE:	.217
SIGMA:	.006

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/15/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-008625 INV#8907 $113.00

SAMPLE: WATER SAMPLE LABELED 004 COLLECTED 12-8-81 RECEIVED 12-10-81 FOR SCHEDULE C ANALYSIS. P.O. #280-60999.

Acidity as CaCO3 mg/l	6.00	Alkalinity as CaCO3 mg/l	537.00
Ammonia as NH3-N mg/l	.17	Arsenic as As mg/l	<.001
Barium as Ba mg/l	.025	Bicarbonate as HCO3 mg/l	655.14
Boron as B mg/l	.320	Cadmium as Cd mg/l	<.001
Calcium as Ca mg/l	61.00	Carbonate as CO3 mg/l	<.01
Chloride as Cl mg/l	35.35	Chromium as Cr (Hex.) mg/l	.004
Chromium as Cr (Tot) mg/l	.002	Conductivity umhos/cm	2,050
Copper as Cu mg/l	<.001	Fluoride as F mg/l	1.05
Hardness as CaCO3 mg/l	330	Hydroxide as OH mg/l	<.01
Iron as Fe (Dissolved) mg/l	.220	Iron as Fe (Total) mg/l	.220
Lead as Pb mg/l	.002	Magnesium as Mg mg/l	49.00
Manganese as Mn mg/l	.025	Mercury as Hg mg/l	<.00020
Nickel as Ni mg/l	<.001	Nitrate as NO3-N mg/l	.44
Nitrite as NO2-N mg/l	.07	Oil and Grease mg/l	.20
Phosphate PO4-P Ortho mg/l	.070	Potassium as K mg/l	13.30

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

Selenium as Se mg/l	<.001	Silica as SiO2 Diss. Mg/l	12.00
Silver as Ag mg/l	<.001	Sodium as Na mg/l	305.00
Sulfate as SO4 mg/l	450	Suspended Solids mg/l	12.0
Total Diss. Solids Mg/l	1,450	Turbidity NTU	1.20
Zinc as Zn mg/l	.026	pH Units	8.10

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/15/82

CERTIFICATE OF ANALYSIS

82-008625-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) RESULTS

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	61.000	3.044
Magnesium as Mg mg/l	49.000	4.030
Iron as Fe (Dissolved) mg/l	.220	.008
Sodium as Na mg/l	305.000	13.268
Potassium as K mg/l	13.300	.340

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	655.140	10.744
Sulfate as SO4 mg/l	450.000	9.369
Chloride as Cl mg/l	35.350	.997
Nitrate as NO3-N mg/l	.440	.007

B A L A N C E I N F O R M A T I O N

CATIONS:	20.690
ANIONS:	21.117
TOTAL:	41.807
DIFFERENCE:	.427
SIGMA:	.010

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/15/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-008624 INV #8909 $113.00

SAMPLE: WATER SAMPLE LABELED 002-P COLLECTED 12-8-81, RECEIVED 12-10-81 FOR SCHEDULE C ANALYSIS. P.O. #280-60999.

Acidity as CaCO3 mg/l	<.01	Alkalinity as CaCO3 mg/l	664.00
Ammonia as NH3-N mg/l	.40	Arsenic as As mg/l	<.001
Barium as Ba mg/l	.030	Bicarbonate as HCO3 mg/l	810.10
Boron as B mg/l	.340	Cadmium as Cd mg/l	<.001
Calcium as Ca mg/l	49.50	Carbonate as CO3 mg/l	<.01
Chloride as Cl mg/l	44.19	Chromium as Cr (Hex.) mg/l	.002
Chromium as Cr (Tot) mg/l	.002	Conductivity umhos/cm	2,100
Copper as Cu mg/l	.010	Fluoride as F mg/l	1.13
Hardness as CaCO3 mg/l	320	Hydroxide as OH mg/l	<.01
Iron as Fe (Dissolved) mg/l	.400	Iron as Fe (Total) mg/l	.410
Lead as Pb mg/l	.002	Magnesium as Mg mg/l	42.50
Manganese as Mn mg/l	.031	Mercury as Hg mg/l	<.00020
Nickel as Ni mg/l	.039	Nitrate as NO3-N mg/l	.30
Nitrite as NO2-N mg/l	.01	Oil and Grease mg/l	.40
Phosphate PO4-P Ortho mg/l	.300	Potassium as K mg/l	14.20

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

Selenium as Se mg/l	<.001	Silica as SiO2 Diss. Mg/l	15.20
Silver as Ag mg/l	<.001	Sodium as Na mg/l	380.00
Sulfate as SO4 mg/l	420	Suspended Solids mg/l	16.0
Total Diss. Solids Mg/l	1,600	Turbidity NTU	.50
Zinc as Zn mg/l	.050	pH Units	8.20

FORD CHEMICAL LABORATORY, INC.

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/15/82

CERTIFICATE OF ANALYSIS

82-008624-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) RESULTS

CATIONS	mg/l	meq/l
Calcium as Ca mg/l	49.500	2.470
Magnesium as Mg mg/l	42.500	3.496
Iron as Fe (Dissolved) mg/l	.400	.014
Sodium as Na mg/l	380.000	16.530
Potassium as K mg/l	14.200	.363

ANIONS	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	810.100	13.286
Sulfate as SO4 mg/l	420.000	8.744
Chloride as Cl mg/l	44.190	1.247
Nitrate as NO3-N mg/l	.300	.005

BALANCE INFORMATION

CATIONS:	22.873
ANIONS:	23.282
TOTAL:	46.155
DIFFERENCE:	.409
SIGMA:	.008

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/15/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-008623 INV #8906 $115.00

SAMPLE: WATER SAMPLE LABELED LWR COLLECTED 12-8-81 RECEIVED 12-8-81 FOR SCHEDULE C ANALYSIS. P.O. #280-60999.

Acidity as CaCO3 mg/l	<.01	Alkalinity as CaCO3 mg/l	475.00
Ammonia as NH3-N mg/l	.19	Arsenic as As mg/l	<.001
Barium as Ba mg/l	.040	Bicarbonate as HCO3 mg/l	520.90
Boron as B mg/l	.260	Cadmium as Cd mg/l	<.001
Calcium as Ca mg/l	50.00	Carbonate as CO3 mg/l	28.80
Chloride as Cl mg/l	34.24	Chromium as Cr (Hex.) mg/l	.004
Chromium as Cr (Tot) mg/l	.003	Conductivity umhos/cm	1,590
Copper as Cu mg/l	.005	Fluoride as F mg/l	.85
Hardness as CaCO3 mg/l	280	Hydroxide as OH mg/l	<.01
Iron as Fe (Dissolved) mg/l	.510	Iron as Fe (Total) mg/l	.720
Lead as Pb mg/l	.002	Magnesium as Mg mg/l	44.50
Manganese as Mn mg/l	.020	Mercury as Hg mg/l	<.00020
Nickel as Ni mg/l	<.001	Nitrate as NO3-N mg/l	.26
Nitrite as NO2-N mg/l	.04	Oil and Grease mg/l	.80
Phosphate PO4-P Ortho mg/l	.110	Potassium as K mg/l	11.80

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

Selenium as Se mg/l	<.001	Silica as SiO2 Diss. Mg/l	12.50
Silver as Ag mg/l	<.001	Sodium as Na mg/l	249.00
Sulfate as SO4 mg/l	330	Suspended Solids mg/l	61.0
Total Diss. Solids Mg/l	1,030	Turbidity NTU	.84
Zinc as Zn mg/l	.025	pH Units	8.20

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Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/15/82

CERTIFICATE OF ANALYSIS

82-008623-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) RESULTS

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	50.000	2.495
Magnesium as Mg mg/l	44.500	3.660
Iron as Fe (Dissolved) mg/l	.510	.018
Sodium as Na mg/l	249.000	10.832
Potassium as K mg/l	11.800	.302

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	28.800	.960
Bicarbonate as HCO3 mg/l	520.900	8.543
Sulfate as SO4 mg/l	330.000	6.871
Chloride as Cl mg/l	34.240	.966
Nitrate as NO3-N mg/l	.260	.004

B A L A N C E I N F O R M A T I O N

CATIONS:	17.307
ANIONS:	17.344
TOTAL:	34.651
DIFFERENCE:	.037
SIGMA:	.001

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/15/82

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

82-008622 INV #890B $ 113.00

SAMPLE: WATER SAMPLE LABELED UPR COLLECTED 12-8-81 RECEIVED 12-10-81 FOR SCHEDULE C ANALYSIS. P.O. #280-60999.

Acidity as CaCO3 mg/l	<.01	Alkalinity as CaCO3 mg/l	246.00
Ammonia as NH3-N mg/l	.13	Arsenic as As mg/l	<.001
Barium as Ba mg/l	.060	Bicarbonate as HCO3 mg/l	231.80
Boron as B mg/l	.040	Cadmium as Cd mg/l	<.001
Calcium as Ca mg/l	50.50	Carbonate as CO3 mg/l	33.60
Chloride as Cl mg/l	3.38	Chromium as Cr (Hex.) mg/l	<.001
Chromium as Cr (Tot) mg/l	<.001	Conductivity umhos/cm	510
Copper as Cu mg/l	<.001	Fluoride as F mg/l	.18
Hardness as CaCO3 mg/l	310	Hydroxide as OH mg/l	<.01
Iron as Fe (Dissolved) mg/l	.040	Iron as Fe (Total) mg/l	.070
Lead as Pb mg/l	<.001	Magnesium as Mg mg/l	41.50
Manganese as Mn mg/l	.006	Mercury as Hg mg/l	<.00020
Nickel as Ni mg/l	<.001	Nitrate as NO3-N mg/l	.17
Nitrite as NO2-N mg/l	.01	Oil and Grease mg/l	.20
Phosphate PO4-P Ortho mg/l	.130	Potassium as K mg/l	3.20

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

Selenium as Se mg/l	<.001	Silica as SiO2 Diss. Mg/l	18.90
Silver as Ag mg/l	<.001	Sodium as Na mg/l	6.50
Sulfate as SO4 mg/l	63.0	Suspended Solids mg/l	2.0
Total Diss. Solids Mg/l	320	Turbidity NTU	.55
Zinc as Zn mg/l	.010	pH Units	8.50

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 01/15/82

CERTIFICATE OF ANALYSIS

82-008622-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) RESULTS

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	50.500	2.520
Magnesium as Mg mg/l	41.500	3.413
Iron as Fe (Dissolved) mg/l	.040	.001
Sodium as Na mg/l	6.500	.283
Potassium as K mg/l	3.200	.082

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	33.600	1.120
Bicarbonate as HCO3 mg/l	231.800	3.802
Sulfate as SO4 mg/l	63.000	1.312
Chloride as Cl mg/l	3.380	.095
Nitrate as NO3-N mg/l	.170	.003

B A L A N C E I N F O R M A T I O N

CATIONS:	6.299
ANIONS:	6.332
TOTAL:	12.631
DIFFERENCE:	.033
SIGMA:	.002

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 12/22/81

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

81-008377 INV# 8580 #882

SAMPLE: WATER SAMPLES COLLECTED 11-17-81 RECEIVED 11-20-81 FOR SCHEDULE "A" ANALYSIS UNDER P.O. 280-60999.

	002 P 11-17-81	004
Acidity as CaCO3 mg/l	<.01	<.01
Alkalinity as CaCO3 mg/l	452.00	74.00
Arsenic as As mg/l	.003	<.001
Iron as Fe mg/l	.148	.110
Manganese as Mn mg/l	.059	.032
Oil and Grease mg/l	.40	.60
Selenium as Se mg/l	.003	<.001
Silver as Ag mg/l	.002	<.001
Suspended Solids mg/l	8.0	7.0
Total Diss. Solids Mg/l	1,500	1,450
pH Units	7.90	8.00

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 11/19/81

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

81-007937 INV #7748 @ #85

SAMPLE: WATER SAMPLES COLLECTED 10-22-81 RECEIVED 10-26-81 FOR SCHEDULE "A" ANALYSIS UNDER P.O. 280-60999.

	002-P	004
Acidity as CaCO3 mg/l	18.00	<.01
Alkalinity as CaCO3 mg/l	334.80	330.00
Arsenic as As mg/l	<.001	<.001
Iron as Fe mg/l	.120	.085
Manganese as Mn mg/l	.090	.030
Oil and Grease mg/l	.80	2.80
Selenium as Se mg/l	<.001	<.001
Silver as Ag mg/l	<.001	<.001
Suspended Solids mg/l	11.0	10.0
Total Diss. Solids Mg/l	1,550	1,500
pH Units	7.80	8.00

Alex Ford
FORD CHEMICAL LABORATORY, INC.

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

RECEIVED
OCT 23 1981
KAISER STEEL
SUNNYSIDE, UTAH

DATE: 10/22/81

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

81-007488 INV# 6717 @#115-

SAMPLE: WATER SAMPLE LABELED LWR DATED 9-21-81 RECEIVED 9-25-81
FOR SCHEDULE "C" ANALYSIS UNDER P.O. 280-60998.

Acidity as CaCO3 mg/l	<.01	Alkalinity as CaCO3 mg/l	582.00
Ammonia as NH3-N mg/l	.85	Arsenic as As mg/l	<.001
Barium as Ba mg/l	.165	Bicarbonate as HCO3 mg/l	710.00
Boron as B mg/l	.096	Cadmium as Cd mg/l	<.001
Calcium as Ca mg/l	44.00	Carbonate as CO3 mg/l	<.01
Chloride as Cl mg/l	24.98	Chromium as Cr (Hex.) mg/l	<.001
Chromium as Cr (Tot) mg/l	.002	Conductivity umhos/cm	1,750
Copper as Cu mg/l	<.001	Fluoride as F mg/l	.89
Hardness as CaCO3 mg/l	370	Hydroxide as OH mg/l	<.01
Iron as Fe (Dissolved) mg/l	.315	Iron as Fe (Total) mg/l	.685
Lead as Pb mg/l	.005	Magnesium as Mg mg/l	62.40
Manganese as Mn mg/l	.096	Mercury as Hg mg/l	<.00020
Nickel as Ni mg/l	<.001	Nitrate as NO3-N mg/l	.29
Nitrite as NO2-N mg/l	<.01	Oil and Grease mg/l	.20
Phosphate PO4-P Ortho mg/l	6.500	Potassium as K mg/l	6.90

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

Selenium as Se mg/l	<.001	Silica as SiO2 Diss. Mg/l	10.00
Silver as Ag mg/l	<.001	Sodium as Na mg/l	280.00
Sulfate as SO4 mg/l	360	Suspended Solids mg/l	33.0
Total Diss. Solids Mg/l	1,135	Turbidity NTU	.49
Zinc as Zn mg/l	.069	pH Units	8.00

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 10/22/81

CERTIFICATE OF ANALYSIS

81-007488-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) RESULTS

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	44.000	2.196
Magnesium as Mg mg/l	62.400	5.132
Iron as Fe (Dissolved) mg/l	.315	.011
Sodium as Na mg/l	280.000	12.180
Potassium as K mg/l	6.900	.176

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	710.000	11.644
Sulfate as SO4 mg/l	360.000	7.495
Chloride as Cl mg/l	24.980	.705
Nitrate as NO3-N mg/l	.290	.005

B A L A N C E I N F O R M A T I O N

CATIONS:	19.695
ANIONS:	19.849
TOTAL:	39.544
DIFFERENCE:	.154
SIGMA:	.003

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

RECEIVED
OCT 23 1981
KAISER STEEL
SUNNYSIDE, UTAH

DATE: 10/22/81

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

81-007487 INV #6793 c*113-

SAMPLE: WATER SAMPLE LABELED UPR DATED 9-21-81 REEIVED 9-25-81
FOR SCHEDULE "C" ANALYSIS UNDER P.O. 280-60998.

Acidity as CaCO3 mg/l	<.01	Alkalinity as CaCO3 mg/l	336.00
Ammonia as NH3-N mg/l	.18	Arsenic as As mg/l	<.001
Barium as Ba mg/l	.078	Bicarbonate as HCO3 mg/l	409.90
Boron as B mg/l	.056	Cadmium as Cd mg/l	<.001
Calcium as Ca mg/l	60.00	Carbonate as CO3 mg/l	<.01
Chloride as Cl mg/l	5.69	Chromium as Cr (Hex.) mg/l	<.001
Chromium as Cr (Tot) mg/l	<.001	Conductivity umhos/cm	790
Copper as Cu mg/l	<.001	Fluoride as F mg/l	.21
Hardness as CaCO3 mg/l	390	Hydroxide as OH mg/l	<.01
Iron as Fe (Dissolved) mg/l	.112	Iron as Fe (Total) mg/l	.165
Lead as Pb mg/l	.002	Magnesium as Mg mg/l	57.60
Manganese as Mn mg/l	.019	Mercury as Hg mg/l	<.00020
Nickel as Ni mg/l	<.001	Nitrate as NO3-N mg/l	.01
Nitrite as NO2-N mg/l	<.01	Oil and Grease mg/l	.80
Phosphate PO4-P Ortho mg/l	19.000	Potassium as K mg/l	12.00

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

Selenium as Se mg/l	<.001	Silica as SiO2 Diss. Mg/l	17.00
Silver as Ag mg/l	<.001	Sodium as Na mg/l	40.00
Sulfate as SO4 mg/l	144	Suspended Solids mg/l	19.0
Total Diss. Solids Mg/l	520	Turbidity NTU	1.00
Zinc as Zn mg/l	.035	pH Units	8.10

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 10/22/81

CERTIFICATE OF ANALYSIS

81-007487-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) RESULTS

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	60.000	2.994
Magnesium as Mg mg/l	57.600	4.738
Iron as Fe (Dissolved) mg/l	.112	.004
Sodium as Na mg/l	40.000	1.740
Potassium as K mg/l	12.000	.307

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	409.900	6.722
Sulfate as SO4 mg/l	144.000	2.998
Chloride as Cl mg/l	5.690	.161
Nitrate as NO3-N mg/l	.010	.000

B A L A N C E I N F O R M A T I O N

CATIONS:	9.783
ANIONS:	9.881
TOTAL:	19.664
DIFFERENCE:	.098
SIGMA:	.004

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

RECEIVED
OCT 23 1981
KAISER STEEL
SUNNYSIDE, UTAH

DATE: 10/22/81

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

81-007486 INV# 6777 @ 226

SAMPLE: WATER SAMPLES DATED 9-21-81 RECEIVED 9-25-81 FOR SCHEDULE "C" ANALYSIS UNDER P.O.280-60998.

	002P	004
Acidity as CaCO3 mg/l	4.00	4.00
Alkalinity as CaCO3 mg/l	640.00	510.00
Ammonia as NH3-N mg/l	.01	.17
Arsenic as As mg/l	<.001	<.001
Barium as Ba mg/l	.075	.066
Bicarbonate as HCO3 mg/l	780.80	622.20
Boron as B mg/l	.036	.025
Cadmium as Cd mg/l	<.001	<.001
Calcium as Ca mg/l	48.00	52.00
Carbonate as CO3 mg/l	<.01	<.01
Chloride as Cl mg/l	32.59	27.72
Chromium as Cr (Hex.) mg/l	<.001	<.001
Chromium as Cr (Tot) mg/l	.002	.002

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Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
81-007486

	002P	004
Conductivity umhos/cm	1,530	1,580
Copper as Cu mg/l	<.001	<.001
Fluoride as F mg/l	1.16	1.06
Hardness as CaCO3 mg/l	320	370
Hydroxide as OH mg/l	<.01	<.01
Iron as Fe (Dissolved) mg/l	.030	.020
Iron as Fe (Total) mg/l	.095	.041
Lead as Pb mg/l	.004	.004
Magnesium as Mg mg/l	38.00	57.60
Manganese as Mn mg/l	.110	.035
Mercury as Hg mg/l	<.00020	<.00020
Nickel as Ni mg/l	<.001	<.001
Nitrate as NO3-N mg/l	.74	.32
Nitrite as NO2-N mg/l	<.01	<.01
Oil and Grease mg/l	5.80	.40
Phosphate PO4-P Ortho mg/l	5.500	6.100
Potassium as K mg/l	3.20	2.40

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
81-007486

	002P	004
Selenium as Se mg/l	<.001	<.001
Silica as SiO2 Diss. Mg/l	6.00	8.00
Silver as Ag mg/l	<.001	<.001
Sodium as Na mg/l	290.00	230.00
fate as SO4 mg/l	220	300
Suspended Solids mg/l	22.0	34.0
Total Diss. Solids Mg/l	995	1,035
Turbidity NTU	.36	.60
Zinc as Zn mg/l	.015	.012
pH Units	8.00	7.90

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SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 10/22/81

CERTIFICATE OF ANALYSIS

81-007486-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) 002P

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	48.000	2.395
Magnesium as Mg mg/l	38.000	3.126
Iron as Fe (Dissolved) mg/l	.030	.001
Sodium as Na mg/l	290.000	12.615
Potassium as K mg/l	3.200	.082

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	780.800	12.805
Sulfate as SO4 mg/l	220.000	4.580
Chloride as Cl mg/l	32.590	.919
Nitrate as NO3-N mg/l	.740	.012

B A L A N C E I N F O R M A T I O N

CATIONS:	18.219
ANIONS:	18.316
TOTAL:	36.535
DIFFERENCE:	.097
SIGMA:	.002

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DATE: 10/22/81

CERTIFICATE OF ANALYSIS

81-007486-02

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (2) 004

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	52.000	2.595
Magnesium as Mg mg/l	57.600	4.738
Iron as Fe (Dissolved) mg/l	.020	.001
Sodium as Na mg/l	230.000	10.005
Potassium as K mg/l	2.400	.061

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	.000	.000
Bicarbonate as HCO3 mg/l	622.200	10.204
Sulfate as SO4 mg/l	300.000	6.246
Chloride as Cl mg/l	27.720	.782
Nitrate as NO3-N mg/l	.320	.005

B A L A N C E I N F O R M A T I O N

CATIONS:	17.400
ANIONS:	17.237
TOTAL:	34.637
DIFFERENCE:	.163
SIGMA:	.004

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

DATE: 09/09/81

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

81-006888 INV

SAMPLE: WATER SAMPLES DATED 8-18-81 RECEIVED 8-21-81 FOR SCHEDULE "A" ANALYSIS UNDER P.O. 280-60999.

	002 P	004
Acidity as CaCO3 mg/l	<.01	<.01
Alkalinity as CaCO3 mg/l	604.00	498.00
Arsenic as As mg/l	<.001	<.001
Iron as Fe mg/l	.560	.440
Manganese as Mn mg/l	.090	.020
Oil and Grease mg/l	1.40	1.20
Selenium as Se mg/l	<.001	<.001
Silver as Ag mg/l	.002	<.001
Suspended Solids mg/l	18.0	17.0
Total Diss. Solids Mg/l	1,600	1,500
pH Units	7.60	7.60

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Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 485-5761

DATE: 08/07/81

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

81-006237 INV #8800

SAMPLE: WATER SAMPLES DATED 7-16-81 RECEIVED 7-17-81 FOR SCHEDULE "A" ANALYSIS UNDER P.O. 280-60999.

	002	004
Acidity as CaCO3 mg/l	4.50	<.01
Alkalinity as CaCO3 mg/l	550.00	490.00
Arsenic as As mg/l	.001	.001
Iron as Fe mg/l	.620	.490
Manganese as Mn mg/l	.100	.020
Oil and Grease mg/l	7.20	3.60
Selenium as Se mg/l	<.001	<.001
Silver as Ag mg/l	.002	<.001
Suspended Solids mg/l	14.0	29.0
Total Diss. Solids Mg/l	1,600	1,500
pH Units	7.70	8.00

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PHONE 485-5761

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JUL 15 1981
KAISER STEEL
SUNNYSIDE, UTAH

DATE: 07/14/81

CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.
P.O. BOX D
SUNNYSIDE, UTAH
JOHN HUEFNER 84539

81-006040 INV 192.00

SAMPLE: WATER SAMPLES DATED 6-16-81 RECEIVED 6-18-81 FOR SCHEDULE "C" ANALYSIS UNDER P.O. 280-60998.

	UPR	LWR
Acidity as CaCO3 mg/l	<.01	<.01
Alkalinity as CaCO3 mg/l	274.00	390.00
Ammonia as NH3-N mg/l	<.01	<.01
Arsenic as As mg/l	<.001	<.001
Barium as Ba mg/l	.188	.510
Bicarbonate as HCO3 mg/l	319.64	451.40
Boron as B mg/l	.090	.250
Cadmium as Cd mg/l	<.001	<.001
Calcium as Ca mg/l	40.00	16.80
Carbonate as CO3 mg/l	7.20	12.00
Chloride as Cl mg/l	8.00	26.00
Chromium as Cr (Hex.) mg/l	<.001	.002
Chromium as Cr (Tot) mg/l	<.001	.002

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Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 485-5761

CERTIFICATE OF ANALYSIS
81-006040

	UPR	LWR
Conductivity umhos/cm	596	1,520
Copper as Cu mg/l	<.001	<.001
Fluoride as F mg/l	.17	.46
Hardness as CaCO3 mg/l	290	306
Hydroxide as OH mg/l	<.01	<.01
Iron as Fe (Dissolved) mg/l	.030	.150
Iron as Fe (Total) mg/l	.050	.150
Lead as Pb mg/l	<.001	<.001
Magnesium as Mg mg/l	45.60	63.36
Manganese as Mn mg/l	.010	.020
Mercury as Hg mg/l	<.00020	<.00020
Nickel as Ni mg/l	<.001	<.001
Nitrate as NO3-N mg/l	<.01	.02
Nitrite as NO2-N mg/l	<.01	.01
Oil and Grease mg/l	<.01	.80
Phosphate PO4-P Ortho mg/l	.030	.050
Potassium as K mg/l	1.65	2.55

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corr 8-07-81

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Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 485-5761

CERTIFICATE OF ANALYSIS
81-006040

	UPR	LWR
Selenium as Se mg/l	<.001	<.001
Silica as SiO2 Diss. Mg/l	21.00	17.00
Silver as Ag mg/l	<.001	<.001
Sodium as Na mg/l	38.50	245.00
Sulfate as SO4 mg/l	80.0	400
Suspended Solids mg/l	24.0	28.0
Total Diss. Solids Mg/l	385	990
Turbidity NTU	.53	1.40
Zinc as Zn mg/l	.030	.150
pH Units	8.20	8.10

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LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 485-5761

DATE: 07/14/81

CERTIFICATE OF ANALYSIS

81-006040-01

FORD CHEMICAL LABORATORIES

BALANCE SHEET FOR SAMPLE: (1) UPR

C A T I O N S	mg/l	meq/l
Calcium as Ca mg/l	40.000	1.996
Magnesium as Mg mg/l	45.600	3.751
Iron as Fe (Dissolved) mg/l	.030	.001
Sodium as Na mg/l	38.500	1.675
Potassium as K mg/l	1.650	.042

A N I O N S	mg/l	meq/l
Carbonate as CO3 mg/l	7.200	.240
Bicarbonate as HCO3 mg/l	319.640	5.242
Sulfate as SO4 mg/l	80.000	1.666
Chloride as Cl mg/l	8.000	.226
Nitrate as NO3-N mg/l	.000	.000

B A L A N C E I N F O R M A T I O N

CATIONS:	7.465
ANIONS:	7.374
TOTAL:	14.839
DIFFERENCE:	.091
SIGMA:	.006

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