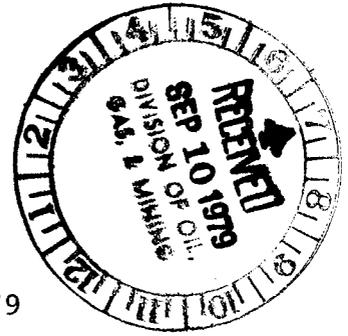


0021

**KAISER  
STEEL**

KAISER STEEL CORPORATION  
WESTERN COAL OPERATIONS  
SUNNYSIDE, UTAH 84539  
TELEPHONE 801-888-4421



Dept. of Natural Resources  
Div. of Oil, Gas & Mining  
1588 W. North Temple  
Salt Lake City, Utah, 84116

7 Sept. '79

Re: Sunnyside Mines  
ACT/007/007  
MC-717.15 Violations

Gentlemen,

Kaiser Steel Corp. herewith submits a revised Revegetation Plan per MC-784.13(b)5 as the result of telephone conversations with Ms. Mary Ann Wright of your office. Consequently Kaiser's revegetation timetable will be altered. The reseeding will now be accomplished by Oct. 31, '79, which includes the Manshaft area, and the planting of seedlings before Apr. 30, '79 in compliance with the recommendations of DOGM.

Also please find enclosed copies of the complete chemical analysis of past water samples from the mine and area taken by us for your information and files.

Sincerely,

A handwritten signature in cursive script that reads "John S. Huefner".

John S. Huefner, PE.

CC: Joe Taylor  
Lloyd Heath  
Lynn Huntsman

Enclosures

September 6, 1979  
Kaiser Steel Corp.  
Sunnyside Mines  
ACT/007/007

REVEGATATION PLAN per MC-784.13(b)5 (REVISED)

- I. SCHEDULE- intend to seed in late fall (Sep.-Oct.) of each year that any land surface disturbance has occurred; also where additional planting is required, will plant seedlings, transplants, in early spring (Mar.-Apr.).
- II. SPECIES- (see attached sheet). these may be altered if field conditions warrant, after notification to DOGM.
- III. PLANTING METHODS- the seed mix will be hand broadcast with the seedlings being hand planted.
- IV. MULCHING TECHNIQUES- because of questionable success in the general area due to the environment and Mancos Shale, Kaiser does not intend to hydroseed. If mulching is required, then the seed will be dry applied, followed by a straw mulch with tackifier sprayed on the slope and seeded surfaces.
- V. IRRIGATION & DISEASE CONTROL- will rely on natural moisture and supplemental irrigation will be minimal. The existing local plants seem to be healthy with no major disease or pest problem so no control measures are anticipated.
- VI. SUCCESS TABULATION- the revegetated sites shall be evaluated after each yearly growing season and reported to DOGM to indicate the success of each species.
- VII. SOIL TESTING- the soil material present has been tested as ML soil. In addition, small individual samples have been taken and sent to the USU Soils Laboratory for analysis.

September 6, 1979  
Kaiser Steel Corp.  
Sunnyside Mines  
ACT/007/007

REVEGETATION PLAN per MC-784.13(b)5ii (REVISED)

II. SPECIES - typical composition of replanting:

SHRUB SEEDLINGS ("Tubepak" or similar) 600/acre per:

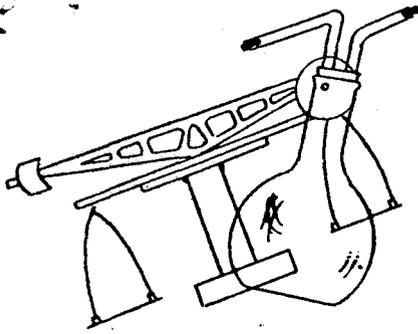
A. Fourwing Saltbrush	150	plants/acre
B. Rubber Rabbitbrush	100	"
C. Black Sagebrush	100	"
D. Cliffrose	100	"
E. Skunkbush Sumac	50	"
F. Woods Rose	50	"
G. Shrubby Cinquefoil	50	"

to be fertilized with "Agriform", or equal,  
planting tablets (21 grams each).

SEED MIX , to be hand broadcast per:

a. Russian Wildrye	3	#/acre
b. Great Basin Wildrye	1	"
c. Fairway Crested Wheatgrass	2	"
d. Pubescent Wheatgrass	2	"
e. Brdls Bluebunch Wheatgrass	1	"
f. Indian Ricegrass	2	"
g. Black Sagebrush (when avail)	3	"
h. Fourwing Saltbrush	2	"
i. Rubber Rabbitbrush	2	"
j. Skunkbush Sumac	1	"
k. Nomad Alfalfa	1	"
l. Yellow Sweetclover	1	"
m. Gooseberryleaf Globemallow	$\frac{1}{4}$	"

Total -  $21\frac{1}{4}$  #/acre



# Ford Chemical

## LABORATORY, INC.

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

DATE: 09/03/79

### CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.  
SUNNYSIDE, UTAH

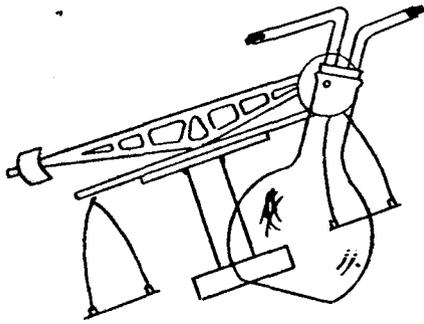
79-005676

84539

SAMPLE: WATER SAMPLES DATED 7/24/79 RECEIVED 7/26/79.

	#003	#004	UPPER GRASSY TRAIL CRK	CRS. WEST PILE SEEP	CLR. WTR. POND
Alkalinity as CaCO <sub>3</sub> mg/l	606.00	472.00	268.00	612.00	382.00
Arsenic as As mg/l	<.001	<.001	<.001	.017	.003
Barium as Ba mg/l	.060	.020	.060	.070	.050
Bicarbonate as HCO <sub>3</sub> mg/l	751.20	575.84	326.96	746.64	451.40
Boron as B mg/l	.385	.600	.070	.080	.870
Cadmium as Cd mg/l	<.001	.002	<.001	<.001	<.001
Calcium as Ca mg/l	56.00	88.00	51.20	432.00	76.80
Carbonate as CO <sub>3</sub> mg/l	<.01	<.01	<.01	<.01	<.01
Chloride as Cl mg/l	32.0	42.0	4.0	214	43.0
Chromium as Cr (Hex.) mg/l	<.001	<.001	<.001	<.001	<.001
Chromium as Cr (Tot) mg/l	.018	.003	.003	.160	.018
Conductivity umhos/cm	2,700	3,000	550	19,400	3,200
Copper as Cu mg/l	.007	.005	.003	.035	.011

All reports are submitted as the confidential property of clients. Authorization for publication of our reports, conclusions, or, extracts from or regarding them, is reserved pending our written approval as a mutual protection to clients, the public and ourselves.



# Ford Chemical

## LABORATORY, INC.

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

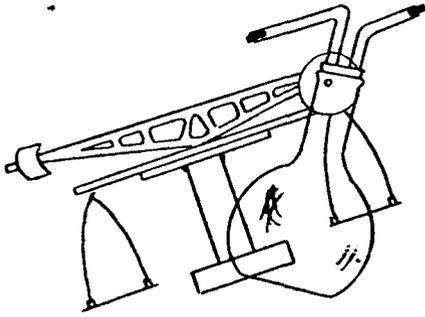
PAGE: 2

### CERTIFICATE OF ANALYSIS

79-008676

	#003	#004	UPPER GRASSY TRAIL CRK	CRS. WEST PILE SEEP	CLR. WTR. POND
Fluoride as F mg/l	1.11	1.06	.28	.66	1.12
Hardness as CaCO <sub>3</sub> mg/l	346	474	272	4,130	346
Iron as Fe (Dissolved) mg/l	.960	1.670	.030	.390	.080
Iron as Fe (Total) mg/l	1.030	1.930	.130	.570	.230
Lead as Pb mg/l	.005	<.001	<.001	<.001	<.001
Magnesium as Mg mg/l	49.44	60.96	34.36	732.00	34.96
Manganese as Mn mg/l	.105	.645	.012	.575	.019
Mercury as Hg mg/l	<.0002	<.0002	<.0002	<.0002	<.0002
Nickel as Ni mg/l	.074	.086	.016	.236	.069
Nitrate as NO <sub>3</sub> -N mg/l	.13	.04	<.01	.15	.19
Oil and Grease mg/l	<1.0	1.4	<1.0	<1.0	<1.0
Potassium as K mg/l	6.930	6.530	1.240	670.000	10.000
Selenium as Se mg/l	<.001	<.001	<.001	.025	.007
Silica as SiO <sub>2</sub> mg/l	8.80	9.30	13.00	15.00	8.30
Silver as Ag mg/l	.004	.004	.001	.012	.004
Sodium as Na mg/l	499.00	509.00	30.26	2,052.00	509.00
Sulfate as SO <sub>4</sub> mg/l	754	1,010	60.0	3,140	1,150

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# Ford Chemical

## LABORATORY, INC.

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

PAGE: 3

### CERTIFICATE OF ANALYSIS

77-000676

#003

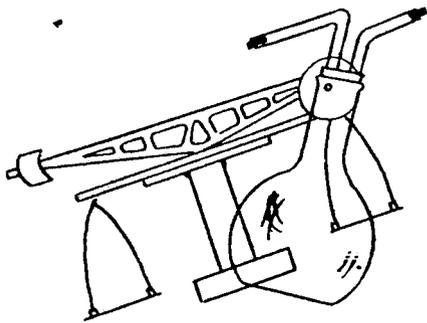
#004

UPPER  
GRASSY  
TRAIL CRK

CRS. NEST  
PILE  
SEEP

CLR. WTR.  
POND

	#003	#004	UPPER GRASSY TRAIL CRK	CRS. NEST PILE SEEP	CLR. WTR. POND
Total Dissolved Solids ms/l	1,776	2,000	345	12,600	2,100
Turbidity NTU	3.00	4.00	5.00	1,000.00	5.00
Zinc as Zn mg/l	.037	.104	.030	.078	.066
pH Units	7.40	7.36	7.49	7.82	7.80



# Ford Chemical

LABORATORY, INC.  
*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

PAGE: 4

**CERTIFICATE OF ANALYSIS**  
77-005676

LWR. GREY.  
TRL. CRK.  
STREAM

Alkalinity as CaCO <sub>3</sub> mg/l	296.00
Arsenic as As mg/l	<.001
Barium as Ba mg/l	.060
Bicarbonate as HCO <sub>3</sub> mg/l	297.68
Boron as B mg/l	.090
Cadmium as Cd mg/l	<.001
Calcium as Ca mg/l	48.00
Carbonate as CO <sub>3</sub> mg/l	31.20
Chloride as Cl mg/l	8.0
Chromium as Cr (Hex.) mg/l	<.001
Chromium as Cr (Tot) mg/l	.039
Conductivity umhos/cm	730
Copper as Cu mg/l	.007
Fluoride as F mg/l	.27
Hardness as CaCO <sub>3</sub> mg/l	302
Iron as Fe (Dissolved) mg/l	.090
Iron as Fe (Total) mg/l	.290



# Ford Chemical

LABORATORY, INC.  
*Bacteriological and Chemical Analysis*

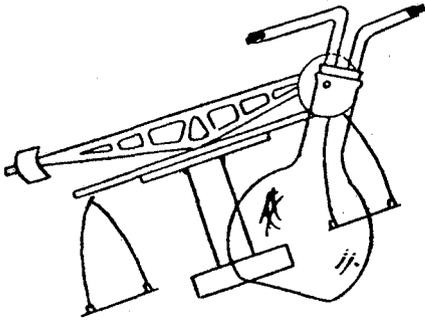
40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

PAGE: 5

**CERTIFICATE OF ANALYSIS**  
79-005675

LWR. GREY.  
TRL. CRK.  
STREAM

Lead as Pb mg/l	<.001
Magnesium as Mg mg/l	43.68
Manganese as Mn mg/l	.022
Mercury as Hg mg/l	<.0002
Nickel as Ni mg/l	.030
Nitrate as NO <sub>3</sub> -N mg/l	.20
Oil and Grease mg/l	<1.0
Potassium as K mg/l	1.942
Selenium as Se mg/l	<.001
Silice as SiO <sub>2</sub> mg/l	11.00
Silver as Ag mg/l	.002
Sodium as Na mg/l	67.10
Sulfate as SO <sub>4</sub> mg/l	130
Total Dissolved Solids mg/l	483
Turbidity NTU	10.00
Zinc as Zn mg/l	.035
pH Units	8.17



# Ford Chemical

LABORATORY, INC.

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

PAGE: 2  
CERTIFICATE OF ANALYSIS

Turbidity NTU

50.00

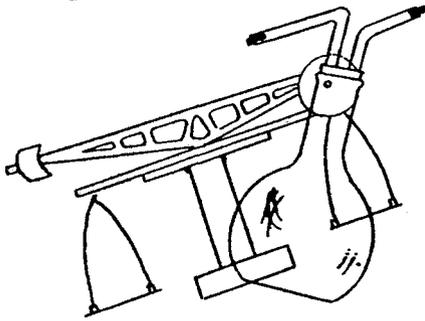
Zinc as Zn mg/l

.015

pH Units

7.55

  
FORD CHEMICAL LABORATORY, INC.



# Ford Chemical

LABORATORY, INC.  
Bacteriological and Chemical Analysis

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Received

JUL 24 1979

KAISER STEEL CORP.  
SUNNYSIDE, UTAH

DATE: 07/23/79  
CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.  
SUNNYSIDE, UTAH

84539

CLR WTR

79-004304 INV ✓

SAMPLE: WATER FROM POND DATED 6/25/79 RECEIVED ON 6/27/79.  
(SLURRY)

Alkalinity as CaCO <sub>3</sub> mg/l	364.00	Arsenic as As mg/l	.002
Barium as Ba mg/l	.03	Bicarbonate as HCO <sub>3</sub> mg/l	444.08
Boron as B mg/l	.390	Cadmium as Cd mg/l	<.001
Calcium as Ca mg/l	52.80	Carbonate as CO <sub>3</sub> mg/l	<.01
Chloride as Cl mg/l	52.0	Chromium as Cr (Dis) mg/l	<.001
Chromium as Cr (Hex.) mg/l	<.001	Conductivity umhos/cm	2,660
Copper as Cu mg/l	.013	Fluoride as F mg/l	.93
Hardness as CaCO <sub>3</sub> mg/l	276	Iron as Fe (Dissolved) mg/l	.050
Iron as Fe (Total) mg/l	1.030	Lead as Pb mg/l	.004
Magnesium as Mg mg/l	82.56	Manganese as Mn mg/l	.009
Mercury as Hg mg/l	<.0002	Nickel as Ni mg/l	<.001
Nitrate as NO <sub>3</sub> -N mg/l	<.01	Potassium as K mg/l	10.300
Selenium as Se mg/l	<.001	Silica as SiO <sub>2</sub> mg/l	6.95
Silver as Ag mg/l	.003	Sodium as Na mg/l	410.00
Sulfate as SO <sub>4</sub> mg/l	900	Total Dissolved Solids mg/l	1,730



# Ford Chemical

LABORATORY, INC.

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

DATE: 06/13/79

## CERTIFICATE OF ANALYSIS

KAISER STEEL CORP.  
SUNNYSIDE, UTAH

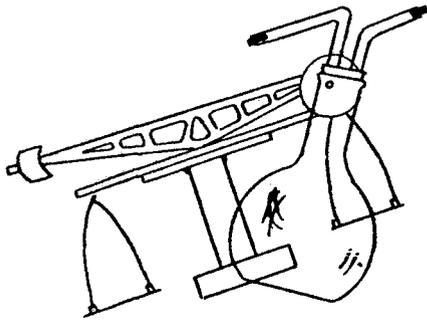
79-003130 INV

84539

SAMPLE: CULINARY WATERS RECEIVED MAY 16, 1979 DATED MAY 15, 1979.

LOWER	UPPER
GRASSY	GRASSY
TRAIL	TRAIL
CREEK	CREEK

	LOWER	UPPER
	GRASSY	GRASSY
	TRAIL	TRAIL
	CREEK	CREEK
Alkalinity as CaCO <sub>3</sub> mg/l	262.00	222.00
Arsenic as As mg/l	.004	<.001
Barium as Ba mg/l	.14	.05
Bicarbonate as HCO <sub>3</sub> mg/l	319.64	270.84
Boron as B mg/l	.130	.100
Cadmium as Cd mg/l	<.001	<.001
Calcium as Ca mg/l	44.80	44.50
Carbonate as CO <sub>3</sub> mg/l	<.01	<.01
Chloride as Cl mg/l	10.0	8.0
Chromium as Cr (Dis) mg/l	.004	.001
Chromium as Cr (Hex.) mg/l	.001	<.001
Conductivity umhos/cm	780	510
Copper as Cu mg/l	.041	.042



# Ford Chemical

## LABORATORY, INC.

*Bacteriological and Chemical Analysis*

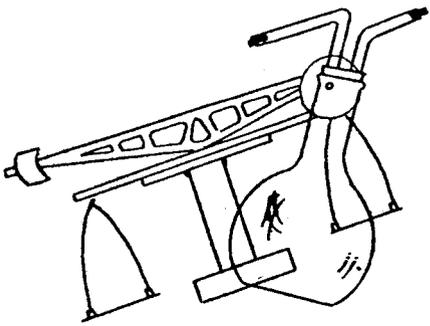
40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

PAGE: 2

### CERTIFICATE OF ANALYSIS

79-003130

	LOWER GRASSY TRAIL CREEK	UPPER GRASSY TRAIL CREEK
Fluoride as F mg/l	.08	.12
Hardness as CaCO <sub>3</sub> mg/l	260	250
Iron as Fe (Dissolved) mg/l	3.996	.293
Iron as Fe (Total) mg/l	39.800	4.714
Lead as Pb mg/l	.003	<.001
Magnesium as Mg mg/l	35.81	33.39
Manganese as Mn mg/l	.654	.069
Mercury as Hg mg/l	<.0002	<.0002
Nickel as Ni mg/l	.023	.002
Nitrate as NO <sub>3</sub> -N + NO <sub>2</sub> -N mg/l	.17	.02
Potassium as K mg/l	2.451	1.344
Selenium as Se mg/l	<.001	<.001
Silica as SiO <sub>2</sub> mg/l	5.40	3.90
Silver as Ag mg/l	<.001	<.001
Sodium as Na mg/l	57.90	24.94
Sulfate as SO <sub>4</sub> mg/l	170	72.0
Total Dissolved Solids mg/l	510	330



# Ford Chemical

LABORATORY, INC.

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

PAGE: 3

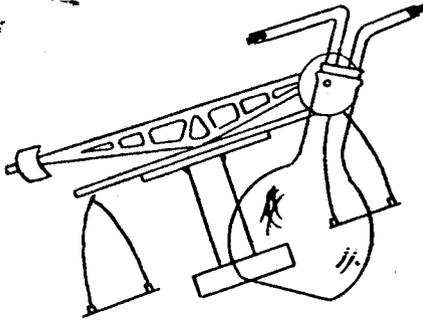
**CERTIFICATE OF ANALYSIS**

79-003130

LOWER GRASSY TRAIL CREEK	UPPER GRASSY TRAIL CREEK
-----------------------------------	-----------------------------------

Turbidity NTU	3.00	.90
Zinc as Zn mg/l	.093	.043
pH Units	7.00	7.85

  
FORD CHEMICAL LABORATORY, INC.



# Ford Chemical

LABORATORY, INC.

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

DATE: 06/07/79  
**CERTIFICATE OF ANALYSIS**

KAISER STEEL CORP.  
SUNNYSIDE, UTAH

79-002802 INV

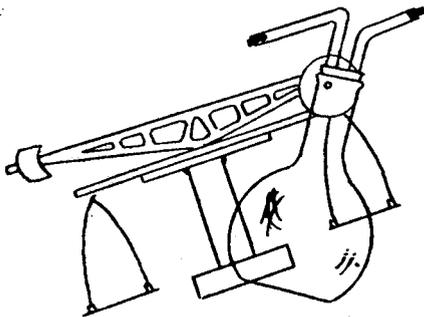
84539

SAMPLE: WASTEWATER DATED 4-27-79, RECEIVED ON MAY 3, 1979:

	002	004	002 4-27-79 8 AM PERSONNEL	004 4-27-79 8 AM PERSONNEL
Acidity as CaCO <sub>3</sub> mg/l	6.0	12.0		
Alkalinity as CaCO <sub>3</sub> mg/l	598.00	472.00		
Arsenic as As mg/l	.002	<.001		
BOD 5 Day mg/l	<1.0	<1.0		
Iron as Fe mg/l	.006	.350		
MFN Fecal Coliform MFN/100 ml			2.0	<2.0
MFN Total Coliform MFN/100 ml			110	<2.0
Oil and Grease mg/l	<1.0	<1.0		
Selenium as Se mg/l	.008	.006		
Silver as Ag mg/l	.003	.003		
Suspended Solids mg/l	3.0	2.0		
Total Dissolved Solids mg/l	1,750	1,500		
pH Units	7.80	7.85		

*Dee 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 485-5761

# Received

APR 8 1977

KAISER STEEL CORP.  
SUNNYSIDE, UTAH

Date: April 7, 1977

Name Kaiser Steel Corporation

Address Sunnyside, UT 84539

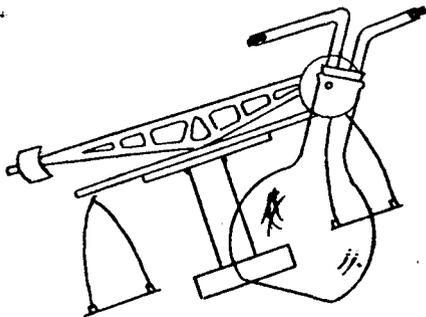
CERTIFICATE OF ANALYSIS

77-1631

Sample Water labeled Twin Shafters Received on March 30, 1977:

Turbidity	<u>40.0</u> JTU	Fluoride as F	<u>0.30</u> mg/l
Conductivity	<u>1,450.0</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>500.0</u> mg/l
pH	<u>7.42</u>	Iron (Total) as Fe	<u>0.216</u> mg/l
Total Dissolved Solids at 180° C.	<u>958.0</u> mg/l	Iron (Filtered) as Fe	<u>0.200</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>270.0</u> mg/l	Lead as Pb	<u>&lt; 0.001</u> mg/l
Aluminum as Al	<u>0.85</u> mg/l	Magnesium as Mg	<u>69.12</u> mg/l
Arsenic as As	<u>&lt; 0.001</u> mg/l	Manganese as Mn	<u>0.003</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>329.4</u> mg/l	Mercury as Hg	<u>&lt; 0.0002</u> mg/l
Barium as Ba	<u>0.018</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.04</u> mg/l
Boron as B	<u>0.155</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.160</u> mg/l
Cadmium as Cd	<u>&lt; 0.001</u> mg/l	Potassium as K	<u>2.67</u> mg/l
Calcium as Ca	<u>84.8</u> mg/l	Selenium as Se	<u>&lt; 0.001</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>14.50</u> mg/l
Chloride as Cl	<u>10.0</u> mg/l	Silver as Ag	<u>&lt; 0.001</u> mg/l
Chromium as Cr (Hex)	<u>&lt; 0.001</u> mg/l	Sulfate as SO <sub>4</sub>	<u>400.0</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>80.0</u> mg/l
Copper as Cu	<u>0.016</u> mg/l	Zinc as Zn	<u>0.020</u> mg/l

  
Ford Chemical Laboratory, Inc.



# Ford Chemical

## LABORATORY, INC.

Bacteriological and Chemical Analysis

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: March 4, 1977

Name Kaiser Steel Corporation

CERTIFICATE OF ANALYSIS

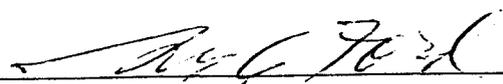
Address Sunnyside, Utah

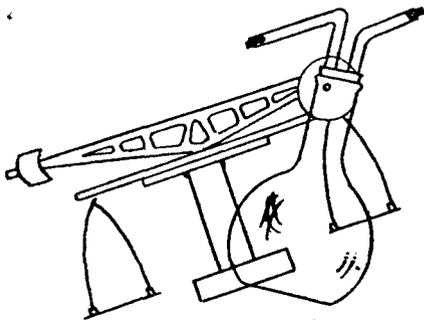
77-1091

(6000)

Sample Water labeled <sup>MAN</sup> Main Shaft received on February 28, 1977.

Turbidity	<u>0.40</u> JTU	Fluoride as F	<u>0.22</u> mg/l
Conductivity	<u>1,130</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>386.0</u> mg/l
pH	<u>7.80</u>	Iron (Total) as Fe	<u>0.340</u> mg/l
Total Dissolved Solids at 180° C.	<u>740.0</u> mg/l	Iron (Filtered) as Fe	<u>0.250</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>300.0</u> mg/l	Lead as Pb	<u>&lt;0.001</u> mg/l
Aluminum as Al	<u>0.010</u> mg/l	Magnesium as Mg	<u>52.80</u> mg/l
Arsenic as As	<u>&lt;0.001</u> mg/l	Manganese as Mn	<u>0.010</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>366.0</u> mg/l	Mercury as Hg	<u>&lt;0.0002</u> mg/l
Barium as Ba	<u>0.050</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.15</u> mg/l
Boron as B	<u>0.110</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.016</u> mg/l
Cadmium as Cd	<u>&lt;0.001</u> mg/l	Potassium as K	<u>34.90</u> mg/l
Calcium as Ca	<u>66.40</u> mg/l	Selenium as Se	<u>&lt;0.001</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt;0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>21.60</u> mg/l
Chloride as Cl	<u>4.0</u> mg/l	Silver as Ag	<u>&lt;0.001</u> mg/l
Chromium as Cr (Hex)	<u>&lt;0.001</u> mg/l	Sulfate as SO <sub>4</sub>	<u>184.0</u> mg/l
Cyanide as Cn	<u>&lt;0.01</u> mg/l	Sodium as Na	<u>32.50</u> mg/l
Copper as Cu	<u>0.150</u> mg/l	Zinc as Zn	<u>0.115</u> mg/l

  
Ford Chemical Laboratory, Inc.



# Ford Chemical

## LABORATORY, INC.

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: March 4, 1977

Name Kaiser Steel Corporation

CERTIFICATE OF ANALYSIS

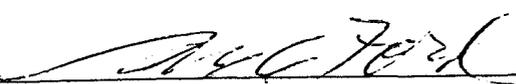
Address Sunnyside, Utah

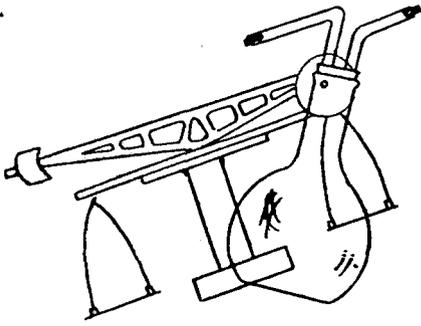
77-1092

(6000)

Sample Water labeled 15th Right No. 1 Mine received on February 28, 1977.

Turbidity	<u>1.50</u> JTU	Fluoride as F	<u>0.63</u> mg/l
Conductivity	<u>1,350</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>242.0</u> mg/l
pH	<u>7.97</u>	Iron (Total) as Fe	<u>0.220</u> mg/l
Total Dissolved Solids at 180° C.	<u>880.0</u> mg/l	Iron (Filtered) as Fe	<u>0.100</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>356.0</u> mg/l	Lead as Pb	<u>&lt;0.001</u> mg/l
Aluminum as Al	<u>0.009</u> mg/l	Magnesium as Mg	<u>37.92</u> mg/l
Arsenic as As	<u>&lt;0.001</u> mg/l	Manganese as Mn	<u>0.015</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>434.3</u> mg/l	Mercury as Hg	<u>&lt;0.0002</u> mg/l
Barium as Ba	<u>0.050</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.51</u> mg/l
Boron as B	<u>0.010</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.028</u> mg/l
Cadmium as Cd	<u>&lt;0.001</u> mg/l	Potassium as K	<u>147.7</u> mg/l
Calcium as Ca	<u>33.60</u> mg/l	Selenium as Se	<u>&lt;0.001</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt;0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>19.60</u> mg/l
Chloride as Cl	<u>8.0</u> mg/l	Silver as Ag	<u>&lt;0.001</u> mg/l
Chromium as Cr (Hex)	<u>&lt;0.001</u> mg/l	Sulfate as SO <sub>4</sub>	<u>210.0</u> mg/l
Cyanide as Cn	<u>&lt;0.01</u> mg/l	Sodium as Na	<u>147.7</u> mg/l
Copper as Cu	<u>0.020</u> mg/l	Zinc as Zn	<u>0.150</u> mg/l

  
Ford Chemical Laboratory, Inc.



# Ford Chemical

## LABORATORY, INC.

Bacteriological and Chemical Analysis

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: March 4, 1977

Name Kaiser Steel Corporation

Address Sunnyside, Utah

(BAO)

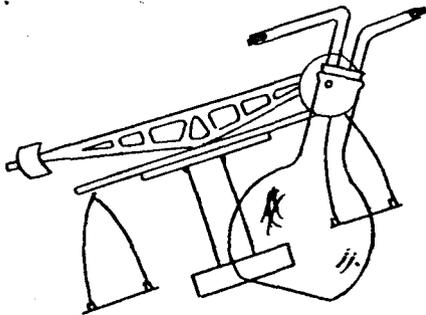
CERTIFICATE OF ANALYSIS

77-1093

Sample Water labeled 1st Left No. 3 Mine received February 28, 1977.

Turbidity	<u>50.00</u> JTU	Fluoride as F	<u>0.15</u> mg/l
Conductivity	<u>2,410</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>630.0</u> mg/l
pH	<u>7.39</u>	Iron (Total) as Fe	<u>0.450</u> mg/l
Total Dissolved Solids at 180° C.	<u>1,570</u> mg/l	Iron (Filtered) as Fe	<u>0.310</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>458.0</u> mg/l	Lead as Pb	<u>&lt;0.001</u> mg/l
Aluminum as Al	<u>0.022</u> mg/l	Magnesium as Mg	<u>85.44</u> mg/l
Arsenic as As	<u>&lt;0.001</u> mg/l	Manganese as Mn	<u>0.020</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>558.8</u> mg/l	Mercury as Hg	<u>&lt;0.0002</u> mg/l
Barium as Ba	<u>0.090</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.03</u> mg/l
Boron as B	<u>0.110</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.029</u> mg/l
Cadmium as Cd	<u>&lt;0.001</u> mg/l	Potassium as K	<u>15.80</u> mg/l
Calcium as Ca	<u>109.6</u> mg/l	Selenium as Se	<u>&lt;0.001</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt;0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>39.60</u> mg/l
Chloride as Cl	<u>26.0</u> mg/l	Silver as Ag	<u>&lt;0.001</u> mg/l
Chromium as Cr (Hex)	<u>&lt;0.001</u> mg/l	Sulfate as SO <sub>4</sub>	<u>600.0</u> mg/l
Cyanide as Cn	<u>&lt;0.01</u> mg/l	Sodium as Na	<u>180.0</u> mg/l
Copper as Cu	<u>0.200</u> mg/l	Zinc as Zn	<u>0.500</u> mg/l

  
Ford Chemical Laboratory, Inc.



# Ford Chemical

LABORATORY, INC.

Bacteriological and Chemical Analysis

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: March 4, 1977

Name Kaiser Steel Corporation

Address Sunnyside, Utah

(BAD)

Sample Water labeled 16th Right No. 3 Minereceived February 28, 1977.

CERTIFICATE OF ANALYSIS

77-1094

Turbidity	<u>0.70</u> JTU	Fluoride as F	<u>0.22</u> mg/l
Conductivity	<u>1,840</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>562.0</u> mg/l
pH	<u>7.64</u>	Iron (Total) as Fe	<u>0.380</u> mg/l
Total Dissolved Solids at 180° C.	<u>1,200</u> mg/l	Iron (Filtered) as Fe	<u>0.200</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>374.0</u> mg/l	Lead as Pb	<u>&lt; 0.001</u> mg/l
Aluminum as Al	<u>0.120</u> mg/l	Magnesium as Mg	<u>88.3</u> mg/l
Arsenic as As	<u>&lt; 0.001</u> mg/l	Manganese as Mn	<u>0.015</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>456.3</u> mg/l	Mercury as Hg	<u>&lt; 0.0002</u> mg/l
Barium as Ba	<u>0.150</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.04</u> mg/l
Boron as B	<u>0.030</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.019</u> mg/l
Cadmium as Cd	<u>&lt; 0.001</u> mg/l	Potassium as K	<u>7.50</u> mg/l
Calcium as Ca	<u>77.6</u> mg/l	Selenium as Se	<u>&lt; 0.001</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>35.60</u> mg/l
Chloride as Cl	<u>10.0</u> mg/l	Silver as Ag	<u>&lt; 0.001</u> mg/l
Chromium as Cr (Hex)	<u>&lt; 0.001</u> mg/l	Sulfate as SO <sub>4</sub>	<u>440.0</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>125.0</u> mg/l
Copper as Cu	<u>0.100</u> mg/l	Zinc as Zn	<u>0.180</u> mg/l

  
Ford Chemical Laboratory, Inc.



# Ford Chemical

LABORATORY

Bacteriological and Chemical Analysis

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115

Date: May 13, 1976

Name Kaiser Steel Corp.

Address Sunnyside, Utah

ATTN: Tom Paluso

CERTIFICATE OF ANALYSIS  
76-3171

Sample Water Samples Received April 22, 1976:

	Whitmore Upper (002)	Main Fan Dischrge (003)	#3 Tanks (004)	Twin Shafts (001)	
Alkalinity as CaCO <sub>3</sub> mg/l	264.0	688.0	472.0	476.0	
Bicarbonate as HCO <sub>3</sub> mg/l	322.0	839.3	575.8	580.7	
Calcium as Ca mg/l	48.0	40.8	59.20	76.0	
Carbonate as CO <sub>3</sub> mg/l	<0.01	<0.01	<0.01	<0.01	
Chloride as Cl mg/l	<0.01	60.0	26.0	26.0	
Conductivity umhos/cm	1,270.0	4,180.0	2,950.0	3,250.0	
Fluoride as F mg/l	0.27	1.37	1.23	1.20	5 1-2
Hardness as CaCO <sub>3</sub> mg/l	284	216	292	412.0	
Hydroxide as OH mg/l					
Magnesium as Mg mg/l	39.36	27.36	34.56	55.20	
pH	7.70	7.80	7.70	7.72	
Potassium as K mg/l	1.10	5.65	5.23	8.46	
Sodium as Na mg/l	129	741	462	478.0	
Sulfate as SO <sub>4</sub> mg/l	290	1,010	760	915.0	
Total Dissolved Solids mg/l	829	2,720	1,920	2,130	
Turbidity FTU	2.60	1.30	2.60	5.40	
Total Kjeldahl Nitrogen mg/l					
Ammonia as NH <sub>3</sub> -N mg/l	0.05	2.03	0.20	1.15	
Nitrate as NO <sub>3</sub> -N mg/l	0.045	0.160	0.350	0.230	
Nitrite as NO <sub>2</sub> -N mg/l					
Total Phosphate as PO <sub>4</sub> -P mg/l	0.180	0.075	0.077	0.250	
Ortho Phosphate as PO <sub>4</sub> -P mg/l					
Aluminum as Al mg/l	0.012	0.450	0.028	0.060	
Antimony as Sb mg/l					
Arsenic as As mg/l	<0.001	0.005	<0.001	0.056	



# Ford Chemical

## LABORATORY

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115

	Whitmore Upper (002)	Main Fan Discharge (003)	#3 Tanks (004)	Twin Shafts (001)	
Barium as Ba mg/l	0.089	0.048	0.062	0.078	
Beryllium as Be mg/l					
Boron as B mg/l	0.005	0.015	0.010	0.016	
Cadmium as Cd mg/l	<0.001	<0.001	<0.001	<0.001	
Chromium as Cr mg/l	<0.001	<0.001	<0.001	<0.001	
Cobalt as Co mg/l					
Copper as Cu mg/l	<0.001	0.007	0.005	0.008	
Germanium as Ge mg/l					
Iron as Fe mg/l Total	0.155	1.340	0.480	0.410	
Lead as Pb mg/l	<0.001	0.027	0.009	0.290	5.05
Manganese as Mn mg/l	<0.001	0.109	0.007	0.178	
Mercury as Hg mg/l	<0.0001	<0.0001	<0.0001	<0.0001	
Molybdenum as Mo mg/l					
Nickel as Ni mg/l					
Selenium as Se mg/l	0.026	0.370	0.275	0.817	5.01
Silver as Ag mg/l	<0.001	<0.001	<0.001	<0.001	
Vanadium as V mg/l					
Zinc as Zn mg/l	0.014	3.060	0.049	0.128	
Bio-Chemical Oxygen Demand mg/l	1.2	3.2	1.8	4.0	
Chemical Oxygen Demand mg/l					
Total Organic Carbon mg/l					
Cyanide as Cn mg/l	<0.01	<0.01	<0.01	<0.01	
Silica as SiO <sub>2</sub> mg/l	14.0	7.90	9.0	11.0	
Oil and Grease mg/l	<0.1	<0.1	<0.1	<0.1	
Phenol mg/l	<0.001	<0.001	<0.001	0.002	
Surfactants mg/l					
Settleable Solids ml/l					
Suspended Solids mg/l	4.0 /	9.0 /	11.0 /	24.0 /	
Total Solids mg/l					

Sincerely,

FORD CHEMICAL LABORATORY, INC.



STEEL CORPORATION

83 NAVAJO STREET  
P.O. BOX 1205  
SALT LAKE CITY, UTAH 84110  
PHONE (801) 521-3405

SAMPLERS

- 1) TWIN SHAFTS #1 MINE
- 2) WHITMORE CANYON #1 MINE
- 3) MAIN PORTAL #1 MINE
- 4) SLOPE #3 MINE
- 5) WATER CANYON #2 MINE
- 6) FRIST HOUSE GRASSY TRAIL CREEK
- 7) GRASSY TRAIL CREEK DUMPING INTO PRICE RIVER
- 8) PRICE RIVER
- 9) WATER FROM PREP PLANT TO SLURRY POND
- 10) SEEPAGE FROM SLURRY POND
- 11) SUNNYSIDE CULINARY WATER
- 12) WATER ABOVE UPPER BATHOUSE

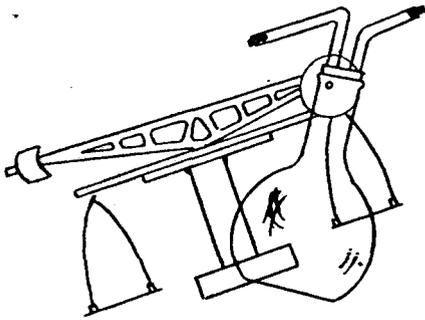


PLATE

• STRUCTURAL

• STAINLESS

• ALUMINUM



# Ford Chemical

## LABORATORY, INC.

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: December 26, 1975

Name Kaiser Steel Corporation

**CERTIFICATE OF ANALYSIS**

75-5844

Address Sunnyside, UT

Sample #1 water received on December 12, 1975, under P.O. No. 280-43938

Turbidity	<u>0.65</u> JTU	Fluoride as F	<u>1.18</u> mg/l
Conductivity	<u>2,960</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>332.0</u> mg/l
pH	<u>7.82</u>	Iron (Total) as Fe	<u>0.379</u> mg/l
Total Dissolved Solids at 180° C.	<u>1,939</u> mg/l	Iron (Filtered) as Fe	<u>--</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>460.0</u> mg/l	Lead as Pb	<u>0.025</u> mg/l
Aluminum as Al	<u>0.140</u> mg/l	Magnesium as Mg	<u>49.9</u> mg/l
Arsenic as As	<u>&lt; 0.01</u> mg/l	Manganese as Mn	<u>0.180</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>561.2</u> mg/l	Mercury as Hg	<u>&lt; 0.001</u> mg/l
Barium as Ba	<u>0.110</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.10</u> mg/l
Boron as B	<u>0.036</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.05</u> mg/l
Cadmium as Cd	<u>&lt; 0.001</u> mg/l	Potassium as K	<u>6.06</u> mg/l
Calcium as Ca	<u>49.6</u> mg/l	Selenium as Se	<u>&lt; 0.01</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>14.50</u> mg/l
Chloride as Cl	<u>26.0</u> mg/l	Silver as Ag	<u>0.005</u> mg/l
Chromium as Cr (Hex)	<u>0.021</u> mg/l	Sulfate as SO <sub>4</sub>	<u>800.0</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>448.0</u> mg/l
Copper as Cu	<u>0.025</u> mg/l	Zinc as Zn	<u>0.148</u> mg/l
3.O.D. (5-day)	<u>15.0</u> mg/l	Suspended Solids	<u>23.0</u> mg/l
Oil & Grease	<u>3.5</u> mg/l		
Phenol	<u>&lt; 0.001</u> mg/l		
C.O.D.	<u>21.0</u> mg/l		

*Lytle Ford*

Ford Chemical Laboratory, Inc.



# Ford Chemical

## LABORATORY, INC.

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: December 26, 1975

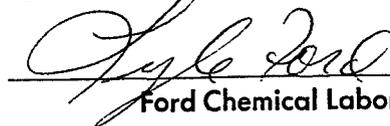
Name Kaiser Steel Corporation

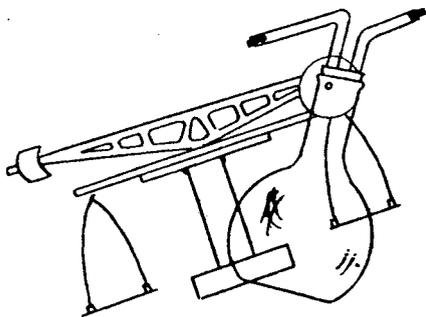
**CERTIFICATE OF ANALYSIS**  
75-5845

Address Sunnyside, UT

Sample #2water received on December 12, 1975, under P.O. No. 280-43938

Turbidity	<u>0.91</u> JTU	Fluoride as F	<u>1.20</u> mg/l
Conductivity	<u>2,990</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>372.0</u> mg/l
pH	<u>8.00</u>	Iron (Total) as Fe	<u>317.0</u> mg/l
Total Dissolved Solids at 180° C.	<u>1,948</u> mg/l	Iron (Filtered) as Fe	<u>--</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>584.0</u> mg/l	Lead as Pb	<u>0.013</u> mg/l
Aluminum as Al	<u>0.11</u> mg/l	Magnesium as Mg	<u>38.0</u> mg/l
Arsenic as As	<u>&lt; 0.01</u> mg/l	Manganese as Mn	<u>0.098</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>712.4</u> mg/l	Mercury as Hg	<u>&lt; 0.001</u> mg/l
Barium as Ba	<u>0.080</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.12</u> mg/l
Boron as B	<u>0.116</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.06</u> mg/l
Cadmium as Cd	<u>0.003</u> mg/l	Potassium as K	<u>7.46</u> mg/l
Calcium as Ca	<u>72.8</u> mg/l	Selenium as Se	<u>&lt; 0.01</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>8.30</u> mg/l
Chloride as Cl	<u>10.0</u> mg/l	Silver as Ag	<u>&lt; 0.001</u> mg/l
Chromium as Cr (Hex)	<u>0.016</u> mg/l	Sulfate as SO <sub>4</sub>	<u>677.5</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>432.0</u> mg/l
Copper as Cu	<u>0.009</u> mg/l	Zinc as Zn	<u>0.097</u> mg/l
B.O.D.	<u>12.5</u> mg/l	Suspended Solids	<u>11.0</u> mg/l
Oil & Grease	<u>2.0</u> mg/l		
Phenol	<u>0.005</u> mg/l		
C.O.D.	<u>18.0</u> mg/l		

  
Ford Chemical Laboratory, Inc.



# Ford Chemical

## LABORATORY, INC.

Bacteriological and Chemical Analysis

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: December 26, 1975

Name Kaiser Steel Corporation

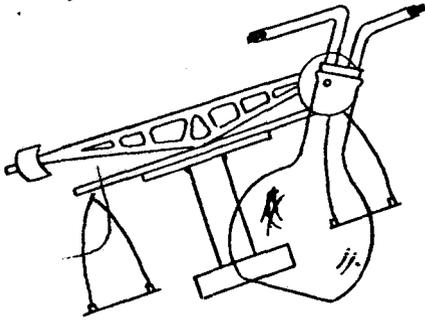
Address Sunnyside, UT

**CERTIFICATE OF ANALYSIS**  
75-5846

Sample #3 water received on December 12, 1975, under P.O. No. 280-43938

Turbidity	<u>3.10</u> JTU	Fluoride as F	<u>1.74</u> mg/l
Conductivity	<u>11,690</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>3,560</u> mg/l
pH	<u>7.80</u>	Iron (Total) as Fe	<u>0.675</u> mg/l
Total Dissolved Solids at 180° C.	<u>7,600</u> mg/l	Iron (Filtered) as Fe	<u>--</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>538.0</u> mg/l	Lead as Pb	<u>0.100</u> mg/l
Aluminum as Al	<u>0.68</u> mg/l	Magnesium as Mg	<u>675.0</u> mg/l
Arsenic as As	<u>&lt; 0.01</u> mg/l	Manganese as Mn	<u>0.885</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>656.3</u> mg/l	Mercury as Hg	<u>&lt; 0.001</u> mg/l
Barium as Ba	<u>0.035</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.07</u> mg/l
Boron as B	<u>0.650</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.05</u> mg/l
Cadmium as Cd	<u>&lt; 0.001</u> mg/l	Potassium as K	<u>42.6</u> mg/l
Calcium as Ca	<u>300.0</u> mg/l	Selenium as Se	<u>0.13</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>40.60</u> mg/l
Chloride as Cl	<u>92.0</u> mg/l	Silver as Ag	<u>&lt; 0.001</u> mg/l
Chromium as Cr (Hex)	<u>0.067</u> mg/l	Sulfate as SO <sub>4</sub>	<u>4,865</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>974.0</u> mg/l
Copper as Cu	<u>0.026</u> mg/l	Zinc as Zn	<u>1.14</u> mg/l
B.O.D.	<u>10.7</u> mg/l	Suspended Solids	<u>25.0</u> mg/l
Oil & Grease	<u>1.2</u> mg/l		
Phenol	<u>0.012</u> mg/l		
C.O.D.	<u>25.0</u> mg/l		

  
Ford Chemical Laboratory, Inc.



# Ford Chemical

## LABORATORY, INC.

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: December 26, 1975

Name Kaiser Steel Corporation

**CERTIFICATE OF ANALYSIS**  
75-5847

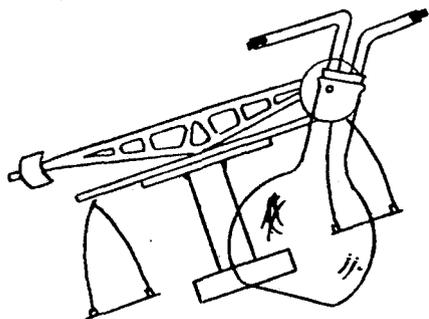
Address Sunnyside, UT

Sample #4 water received on December 12, 1975, under P.O. NO. 280-43938

Turbidity	<u>2.00</u> JTU	Fluoride as F	<u>1.27</u> mg/l
Conductivity	<u>2,980</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>344.0</u> mg/l
pH	<u>8.03</u>	Iron (Total) as Fe	<u>0.289</u> mg/l
Total Dissolved Solids at 180° C.	<u>1,940</u> mg/l	Iron (Filtered) as Fe	<u>--</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>476.0</u> mg/l	Lead as Pb	<u>0.016</u> mg/l
Aluminum as Al	<u>0.06</u> mg/l	Magnesium as Mg	<u>35.52</u> mg/l
Arsenic as As	<u>0.05</u> mg/l	Manganese as Mn	<u>0.030</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>580.72</u> mg/l	Mercury as Hg	<u>&lt; 0.001</u> mg/l
Barium as Ba	<u>0.035</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.36</u> mg/l
Boron as B	<u>0.120</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.04</u> mg/l
Cadmium as Cd	<u>&lt; 0.001</u> mg/l	Potassium as K	<u>6.07</u> mg/l
Calcium as Ca	<u>62.4</u> mg/l	Selenium as Se	<u>0.02</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>8.70</u> mg/l
Chloride as Cl	<u>44.0</u> mg/l	Silver as Ag	<u>&lt; 0.001</u> mg/l
Chromium as Cr (Hex)	<u>0.014</u> mg/l	Sulfate as SO <sub>4</sub>	<u>755.0</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>458.0</u> mg/l
Copper as Cu	<u>0.007</u> mg/l	Zinc as Zn	<u>0.045</u> mg/l
B.O.D.	<u>12.0</u> mg/l	Suspended Solids	<u>4.0</u> mg/l
Oil & Grease	<u>2.6</u> mg/l		
Phenol	<u>&lt; 0.001</u> mg/l		
C.O.D.	<u>16.0</u> mg/l		

*[Signature]*

Ford Chemical Laboratory, Inc.



# Ford Chemical

## LABORATORY, INC.

Bacteriological and Chemical Analysis

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: December 26, 1975

Name Kaiser Steel Corporation

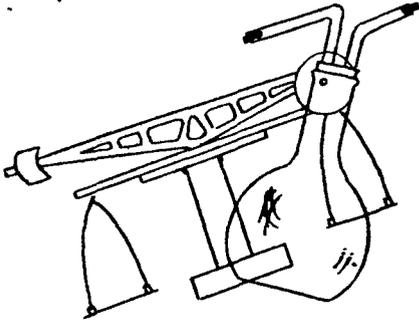
**CERTIFICATE OF ANALYSIS**  
75-5848

Address Sunnyside, UT

Sample #5 water received on December 12, 1975, under P.O. No. 280-43938

Turbidity	<u>0.51</u> JTU	Fluoride as F	<u>1.14</u> mg/l
Conductivity	<u>2,520</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>200.0</u> mg/l
pH	<u>8.04</u>	Iron (Total) as Fe	<u>0.112</u> mg/l
Total Dissolved Solids at 180° C.	<u>1,638</u> mg/l	Iron (Filtered) as Fe	<u>--</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>502.0</u> mg/l	Lead as Pb	<u>0.008</u> mg/l
Aluminum as Al	<u>0.09</u> mg/l	Magnesium as Mg	<u>29.2</u> mg/l
Arsenic as As	<u>&lt; 0.01</u> mg/l	Manganese as Mn	<u>0.032</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>612.44</u> mg/l	Mercury as Hg	<u>&lt; 0.001</u> mg/l
Barium as Ba	<u>0.061</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.15</u> mg/l
Boron as B	<u>0.020</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.03</u> mg/l
Cadmium as Cd	<u>&lt; 0.001</u> mg/l	Potassium as K	<u>5.17</u> mg/l
Calcium as Ca	<u>31.2</u> mg/l	Selenium as Se	<u>&lt; 0.01</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>6.70</u> mg/l
Chloride as Cl	<u>24.0</u> mg/l	Silver as Ag	<u>&lt; 0.001</u> mg/l
Chromium as Cr (Hex)	<u>&lt; 0.001</u> mg/l	Sulfate as SO <sub>4</sub>	<u>537.5</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>400.0</u> mg/l
Copper as Cu	<u>0.008</u> mg/l	Zinc as Zn	<u>0.019</u> mg/l
BOD	<u>6.1</u> mg/l	Suspended Solids	<u>7.0</u> mg/l
Oil & Grease	<u>1.3</u> mg/l		
Phenol	<u>&lt; 0.001</u> mg/l		
C.O.D.	<u>12.0</u> mg/l		

Ford Chemical Laboratory, Inc.



# Ford Chemical

## LABORATORY, INC.

Bacteriological and Chemical Analysis

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: December 26, 1975

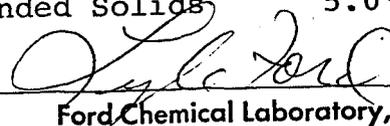
Name Kaiser Steel Corporation

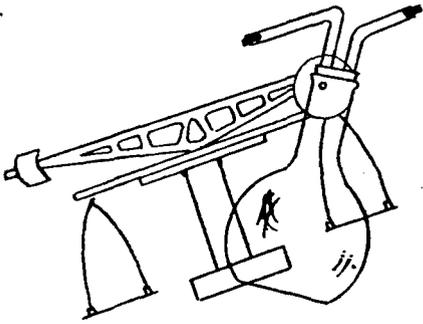
Address Sunnyside, UT

CERTIFICATE OF ANALYSIS  
75-5849

Sample #6 water received on December 12, 1975, under P.O. No. 280-43938

Turbidity	<u>1.20</u> JTU	Fluoride as F	<u>1.18</u> mg/l
Conductivity	<u>2,880</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>348.0</u> mg/l
pH	<u>8.10</u>	Iron (Total) as Fe	<u>0.218</u> mg/l
Total Dissolved Solids at 180° C.	<u>1,878</u> mg/l	Iron (Filtered) as Fe	<u>--</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>464.0</u> mg/l	Lead as Pb	<u>0.005</u> mg/l
Aluminum as Al	<u>0.11</u> mg/l	Magnesium as Mg	<u>52.32</u> mg/l
Arsenic as As	<u>&lt; 0.01</u> mg/l	Manganese as Mn	<u>0.022</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>566.08</u> mg/l	Mercury as Hg	<u>&lt; 0.001</u> mg/l
Barium as Ba	<u>0.085</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.38</u> mg/l
Boron as B	<u>0.012</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.03</u> mg/l
Cadmium as Cd	<u>&lt; 0.001</u> mg/l	Potassium as K	<u>5.22</u> mg/l
Calcium as Ca	<u>52.0</u> mg/l	Selenium as Se	<u>&lt; 0.01</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>12.60</u> mg/l
Chloride as Cl	<u>40.0</u> mg/l	Silver as Ag	<u>&lt; 0.001</u> mg/l
Chromium as Cr (Hex)	<u>&lt; 0.001</u> mg/l	Sulfate as SO <sub>4</sub>	<u>740.0</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>423.0</u> mg/l
Copper as Cu	<u>0.013</u> mg/l	Zinc as Zn	<u>0.048</u> mg/l
B.O.D.	<u>4.3</u> mg/l	Suspended Solids	<u>5.0</u> mg/l
Oil & Grease	<u>1.0</u> mg/l		
Phenol	<u>&lt; 0.001</u> mg/l		
C.O.D.	<u>80</u> mg/l		

  
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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: December 26, 1975

Name Kaiser Steel Corporation

Address Sunnyside, UT

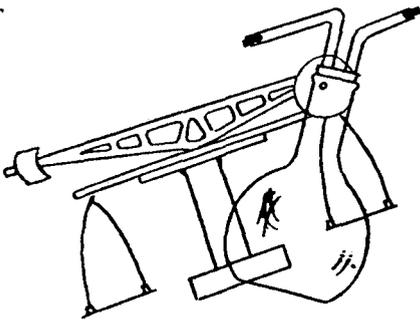
**CERTIFICATE OF ANALYSIS**

75-5850

Sample #7 water received on December 12, 1975, under P.O. No. 280-43938

Turbidity	<u>1.60</u> JTU	Fluoride as F	<u>1.27</u> mg/l
Conductivity	<u>8,240</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>1,890</u> mg/l
pH	<u>8.03</u>	Iron (Total) as Fe	<u>0.369</u> mg/l
Total Dissolved Solids at 180° C.	<u>5,350</u> mg/l	Iron (Filtered) as Fe	<u>--</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>232.0</u> mg/l	Lead as Pb	<u>0.004</u> mg/l
Aluminum as Al	<u>0.14</u> mg/l	Magnesium as Mg	<u>276.0</u> mg/l
Arsenic as As	<u>0.02</u> mg/l	Manganese as Mn	<u>0.034</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>283.0</u> mg/l	Mercury as Hg	<u>&lt; 0.001</u> mg/l
Barium as Ba	<u>0.095</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>1.05</u> mg/l
Boron as B	<u>0.146</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.08</u> mg/l
Cadmium as Cd	<u>&lt; 0.001</u> mg/l	Potassium as K	<u>9.63</u> mg/l
Calcium as Ca	<u>296.0</u> mg/l	Selenium as Se	<u>0.15</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>9.30</u> mg/l
Chloride as Cl	<u>98.0</u> mg/l	Silver as Ag	<u>0.011</u> mg/l
Chromium as Cr (Hex)	<u>0.038</u> mg/l	Sulfate as SO <sub>4</sub>	<u>3,450</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>946.0</u> mg/l
Copper as Cu	<u>0.026</u> mg/l	Zinc as Zn	<u>0.411</u> mg/l
B.O.D.	<u>7.0</u> mg/l	Suspended Solids	<u>72.0</u> x mg/l
Oil & Grease	<u>3.3</u> mg/l		
Phenol	<u>&lt; 0.001</u> mg/l		
C.O.D.	<u>8.5</u> mg/l		

*Lytle Ford*  
Ford Chemical Laboratory, Inc.



# Ford Chemical

## LABORATORY, INC.

Bacteriological and Chemical Analysis

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: December 26, 1975

Name Kaiser Steel Corporation

CERTIFICATE OF ANALYSIS

Address Sunnyside, UT

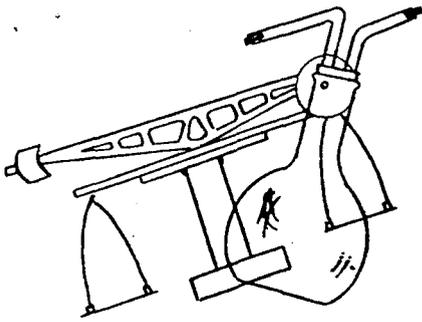
75-5851

Sample #8 water received on December 12, 1975, under P.O. No. 280-43938

Turbidity	<u>2.1</u> JTU	Fluoride as F	<u>0.82</u> mg/l
Conductivity	<u>3,792</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>930.0</u> mg/l
pH	<u>8.23</u>	Iron (Total) as Fe	<u>1.39</u> mg/l
Total Dissolved Solids at 180° C.	<u>2,465</u> mg/l	Iron (Filtered) as Fe	<u>--</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>302.0</u> mg/l	Lead as Pb	<u>0.034</u> mg/l
Aluminum as Al	<u>9.3</u> mg/l	Magnesium as Mg	<u>110.4</u> mg/l
Arsenic as As	<u>&lt; 0.01</u> mg/l	Manganese as Mn	<u>0.287</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>368.4</u> mg/l	Mercury as Hg	<u>&lt; 0.001</u> mg/l
Barium as Ba	<u>0.115</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.84</u> mg/l
Boron as B	<u>0.260</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.55</u> mg/l
Cadmium as Cd	<u>&lt; 0.001</u> mg/l	Potassium as K	<u>4.86</u> mg/l
Calcium as Ca	<u>188.0</u> mg/l	Selenium as Se	<u>&lt; 0.01</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>5.50</u> mg/l
Chloride as Cl	<u>40.0</u> mg/l	Silver as Ag	<u>&lt; 0.001</u> mg/l
Chromium as Cr (Hex)	<u>0.036</u> mg/l	Sulfate as SO <sub>4</sub>	<u>1,370</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>384.0</u> mg/l
Copper as Cu	<u>0.053</u> mg/l	Zinc as Zn	<u>0.043</u> mg/l
B.O.D.	<u>8.0</u> mg/l	Suspended Solids	<u>174.0</u> mg/l
Oil & Grease	<u>&lt; 1.0</u> mg/l		
Phenol	<u>&lt; 0.001</u> mg/l		
C.O.D.	<u>10.0</u> mg/l		

*[Signature]*

Ford Chemical Laboratory, Inc.



# Ford Chemical

LABORATORY, INC.  
Bacteriological and Chemical Analysis

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: December 26, 1975

Name Kaiser Steel Corporation

Address Sunnyside, UT

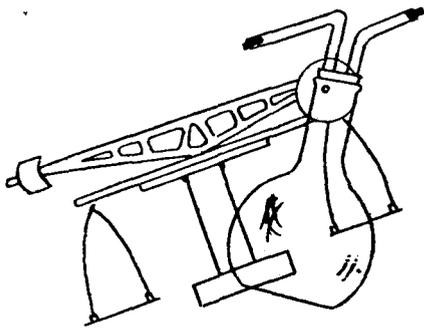
CERTIFICATE OF ANALYSIS  
75-5852

Sample #9 Water received on December 12, 1975, under P.O. No. 280-43938

Turbidity	<u>14.10</u> JTU	Fluoride as F	<u>1.36</u> mg/l
Conductivity	<u>2,870</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>438.0</u> mg/l
pH	<u>8.15</u>	Iron (Total) as Fe	<u>0.204</u> mg/l
Total Dissolved Solids at 180° C.	<u>1,867</u> mg/l	Iron (Filtered) as Fe	<u>--</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>338.0</u> mg/l	Lead as Pb	<u>0.018</u> mg/l
Aluminum as Al	<u>0.39</u> mg/l	Magnesium as Mg	<u>52.8</u> mg/l
Arsenic as As	<u>0.25</u> mg/l	Manganese as Mn	<u>0.069</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>412.36</u> mg/l	Mercury as Hg	<u>&lt; 0.001</u> mg/l
Barium as Ba	<u>0.135</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.36</u> mg/l
Boron as B	<u>0.414</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.05</u> mg/l
Cadmium as Cd	<u>&lt; 0.001</u> mg/l	Potassium as K	<u>6.19</u> mg/l
Calcium as Ca	<u>87.2</u> mg/l	Selenium as Se	<u>0.45</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>16.20</u> mg/l
Chloride as Cl	<u>46.0</u> mg/l	Silver as Ag	<u>&lt; 0.001</u> mg/l
Chromium as Cr (Hex)	<u>0.026</u> mg/l	Sulfate as SO <sub>4</sub>	<u>875.0</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>389.0</u> mg/l
Copper as Cu	<u>0.019</u> mg/l	Zinc as Zn	<u>0.642</u> mg/l
B.O.D.	<u>45.0</u> mg/l	Suspended Solids	<u>432.0</u> X mg/l
Oil & Grease	<u>5.0</u> mg/l		
Phenol	<u>0.015</u> mg/l		
C.O.D.	<u>55.0</u> mg/l		

*Kyle Ford*

Ford Chemical Laboratory, Inc.



# Ford Chemical

## LABORATORY, INC.

Bacteriological and Chemical Analysis

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PHONE 485-5761

Date: December 26, 1975

Name Kaiser Steel Corporation  
Address Sunnyside, UT

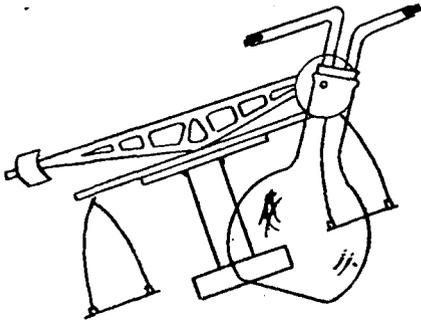
### CERTIFICATE OF ANALYSIS

75-5853

Sample #10 water received on December 12, 1975, under P.O. No. 280-43938

Turbidity	<u>1.30</u> JTU	Fluoride as F	<u>0.82</u> mg/l
Conductivity	<u>3,000</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>884.0</u> mg/l
pH	<u>8.05</u>	Iron (Total) as Fe	<u>0.780</u> mg/l
Total Dissolved Solids at 180° C.	<u>1,953</u> mg/l	Iron (Filtered) as Fe	<u>--</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>332.0</u> mg/l	Lead as Pb	<u>0.025</u> mg/l
Aluminum as Al	<u>5.88</u> mg/l	Magnesium as Mg	<u>128.64</u> mg/l
Arsenic as As	<u>0.05</u> mg/l	Manganese as Mn	<u>0.558</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>405.04</u> mg/l	Mercury as Hg	<u>&lt; 0.001</u> mg/l
Barium as Ba	<u>0.155</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.74</u> mg/l
Boron as B	<u>0.140</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.025</u> mg/l
Cadmium as Cd	<u>&lt; 0.001</u> mg/l	Potassium as K	<u>9.07</u> mg/l
Calcium as Ca	<u>139.2</u> mg/l	Selenium as Se	<u>0.35</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>18.20</u> mg/l
Chloride as Cl	<u>36.0</u> mg/l	Silver as Ag	<u>&lt; 0.001</u> mg/l
Chromium as Cr (Hex)	<u>0.019</u> mg/l	Sulfate as SO <sub>4</sub>	<u>1,000</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>236.0</u> mg/l
Copper as Cu	<u>0.019</u> mg/l	Zinc as Zn	<u>18.650</u> mg/l
BOD	<u>6.0</u> mg/l	Suspended Solids	<u>23.0</u> mg/l
Oil & Grease	<u>1.8</u> mg/l		
Phenol	<u>&lt; 0.001</u> mg/l		
C.O.D.	<u>15.0</u> mg/l		

*[Signature]*  
Ford Chemical Laboratory, Inc.



# Ford Chemical

## LABORATORY, INC.

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: December 26, 1975

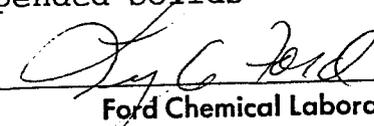
Name Kaiser Steel Corporation

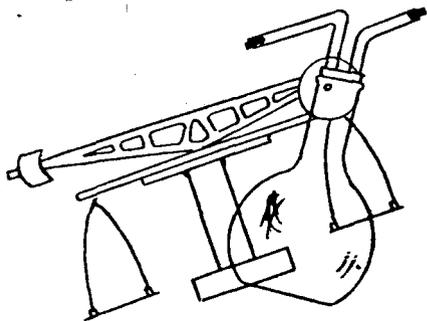
Address Sunnyside, UT

**CERTIFICATE OF ANALYSIS**  
75-5854

Sample #11 water received on December 12, 1975, under PO No. 280-43938

Turbidity	<u>0.61</u> JTU	Fluoride as F	<u>0.27</u> mg/l
Conductivity	<u>750.0</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>278.0</u> mg/l
pH	<u>8.10</u>	Iron (Total) as Fe	<u>0.079</u> mg/l
Total Dissolved Solids at 180° C.	<u>488.0</u> mg/l	Iron (Filtered) as Fe	<u>--</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>242.0</u> mg/l	Lead as Pb	<u>&lt; 0.001</u> mg/l
Aluminum as Al	<u>&lt; 0.001</u> mg/l	Magnesium as Mg	<u>37.92</u> mg/l
Arsenic as As	<u>&lt; 0.01</u> mg/l	Manganese as Mn	<u>0.006</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>295.2</u> mg/l	Mercury as Hg	<u>&lt; 0.001</u> mg/l
Barium as Ba	<u>0.115</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.07</u> mg/l
Boron as B	<u>0.004</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.03</u> mg/l
Cadmium as Cd	<u>&lt; 0.001</u> mg/l	Potassium as K	<u>1.259</u> mg/l
Calcium as Ca	<u>48.0</u> mg/l	Selenium as Se	<u>&lt; 0.01</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>2.50</u> mg/l
Chloride as Cl	<u>6.0</u> mg/l	Silver as Ag	<u>&lt; 0.001</u> mg/l
Chromium as Cr (Hex)	<u>0.006</u> mg/l	Sulfate as SO <sub>4</sub>	<u>80.0</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>21.0</u> mg/l
Copper as Cu	<u>0.03</u> mg/l	Zinc as Zn	<u>10.50</u> mg/l
B.O.D.	<u>4.0</u> mg/l	Suspended Solids	<u>5.0</u> / mg/l
Oil & Grease	<u>3.0</u> mg/l		
Phenol	<u>&lt; 0.001</u> mg/l		
C.O.D.	<u>12.0</u> mg/l		

  
Ford Chemical Laboratory, Inc.



# Ford Chemical

LABORATORY, INC.  
Bacteriological and Chemical Analysis

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

Date: December 26, 1975

Name Kaiser Steel Corporation

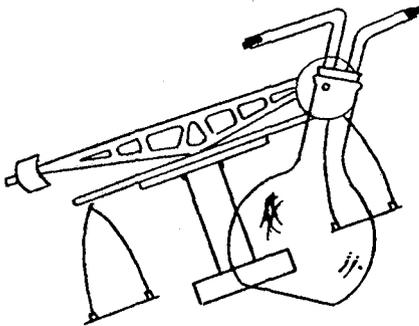
Address Sunnyside, UT

CERTIFICATE OF ANALYSIS  
75-5855

Sample #12 Water received on December 12, 1975, under P.O. No. 280-43938

Turbidity	<u>0.43</u> JTU	Fluoride as F	<u>0.27</u> mg/l
Conductivity	<u>829.0</u> umhos/cm	Total Hardness as CaCO <sub>3</sub>	<u>288.0</u> mg/l
pH	<u>8.23</u>	Iron (Total) as Fe	<u>3.02</u> mg/l
Total Dissolved Solids at 180° C.	<u>539.0</u> mg/l	Iron (Filtered) as Fe	<u>--</u> mg/l
Alkalinity as CaCO <sub>3</sub>	<u>278.0</u> mg/l	Lead as Pb	<u>&lt; 0.001</u> mg/l
Aluminum as Al	<u>0.490</u> mg/l	Magnesium as Mg	<u>41.28</u> mg/l
Arsenic as As	<u>&lt; 0.01</u> mg/l	Manganese as Mn	<u>1.122</u> mg/l
Bicarbonate as HCO <sub>3</sub>	<u>339.16</u> mg/l	Mercury as Hg	<u>&lt; 0.001</u> mg/l
Barium as Ba	<u>0.155</u> mg/l	Nitrate as NO <sub>3</sub> -N	<u>0.03</u> mg/l
Boron as B	<u>0.205</u> mg/l	Phosphate as PO <sub>4</sub>	<u>0.07</u> mg/l
Cadmium as Cd	<u>&lt; 0.001</u> mg/l	Potassium as K	<u>1.120</u> mg/l
Calcium as Ca	<u>44.8</u> mg/l	Selenium as Se	<u>&lt; 0.01</u> mg/l
Carbonate as CO <sub>3</sub>	<u>&lt; 0.01</u> mg/l	Silica as SiO <sub>2</sub>	<u>12.30</u> mg/l
Chloride as Cl	<u>4.0</u> mg/l	Silver as Ag	<u>&lt; 0.001</u> mg/l
Chromium as Cr (Hex)	<u>0.081</u> mg/l	Sulfate as SO <sub>4</sub>	<u>77.5</u> mg/l
Cyanide as Cn	<u>&lt; 0.01</u> mg/l	Sodium as Na	<u>30.0</u> mg/l
Copper as Cu	<u>0.101</u> mg/l	Zinc as Zn	<u>1.63</u> mg/l
B.O.D.	<u>2.5</u> mg/l	Suspended Solids	<u>&lt; 1.0</u> mg/l
Oil & Grease	<u>&lt; 1.0</u> mg/l		
Phenol	<u>&lt; 0.001</u> mg/l		
C.O.D.	<u>6.9</u> mg/l		

Ford Chemical Laboratory, Inc.



# Ford Chemical

## LABORATORY, INC.

*Bacteriological and Chemical Analysis*

40 WEST LOUISE AVENUE  
SALT LAKE CITY, UTAH 84115  
PHONE 485-5761

February 9, 1976

CERTIFICATE OF ANALYSIS  
76-514

Kaiser Steel Corporation  
Sunnyside, Utah

Gentlemen:

The following analysis is on sample of water received on  
December 12, 1975 under P.O. No. 280-43938:

Sample: Water

	Chemical Oxygen Demand
Sample #1	21.0 mg/l
Sample #2	18.0 mg/l
Sample #3	25.0 mg/l
Sample #4	16.0 mg/l
Sample #5	12.0 mg/l
Sample #6	8.0 mg/l
Sample #7	8.5 mg/l
Sample #8	10.0 mg/l
Sample #9	55.0 mg/l
Sample #10	15.0 mg/l
Sample #11	12.0 mg/l
Sample #12	6.0 mg/l

Sincerely,  
FORD CHEMICAL LABORATORY, INC.