



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

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3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
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November 15, 1995

James Fulton, Chief
Denver Field Division
Office of Surface Mining
Reclamation and Enforcement
1999 Broadway, Suite 3320
Denver, CO 80202-5733

Re: Water Quality Data, Horizon Mine, Horizon Coal Company, PRO/007/020,
Folder #2, Carbon County, Utah

Dear Mr. Fulton:

I am enclosing the water quality data for the proposed Horizon Mine for July through October 1995. Please add this information to the back of the existing Appendices 7-2 and 7-3, respectively.

If you have any questions, please call me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Pamela Grubaugh-Littig'.

Pamela Grubaugh-Littig
Permit Supervisor

Enclosure

cc: Mark Bailey, BLM, Price
Alan Rabinoff, BLM, Salt Lake Office
Mark Page, Water Rights, Price
Dave Ariotti, DEQ, Price
Bill Bates, DWR, Price
Price Field Office



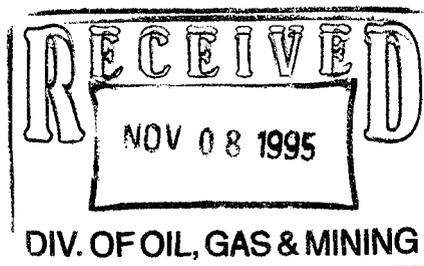
Horizon Coal Corporation
November 8, 1995

PLEASE
ADD THE ATTACHED DATA
TO THE BACK OF
APPENDIX 7-2
GROUNDWATER DATA

HORIZON COAL CORPORATION WATER QUALITY SURVEY
MAY 19 & 26, 1995

SAMPLE SITE	pH (units)	COND. (umhos/cm)	FLOW RATE (gpm)	TEMP. (c)	USE/REMARKS
1	8.44	378	80	8	
2	7.75	572	2	8	
3*	8.35	514	25	12	
4	8.56	523	35	6	Pipe
5*	8.06	600	210	7	Running along Road
6			Dry		
7*	8.07	275	5150	12	
8*	8.68	289	3016	15	
Water Box	8.23	566	45	7	
LMC 1			Dry		
LMC 3			Dry		
LMC 4			Dry		

* Surface water



HORIZON COAL CORPORATION WATER QUALITY SURVEY
JUNE 28, 1995

SAMPLE SITE	pH (units)	COND. (umhos/cm)	FLOW RATE (gpm)	TEMP. (c)	USE/REMARKS
1	8.24	631	50	12	
2	8.27	1045	2	10	
3*	8.33	906	25	17	Cows
4	8.42	856	35	12	Pipe/Cows
5*	8.20	891	70	12	Cows/Running along Road
6			Dry		
7*	8.41	979	2730	12	Cows
8*	8.31	906	1576	12	Cows
Water Box	8.40	1000	45	8	
LMC 1			Dry		
LMC 3			Dry		
LMC 4			Dry		

* Surface water

HORIZON COAL CORPORATION WATER QUALITY SURVEY
JULY 24, 1995

SAMPLE SITE	pH (units)	COND. (umhos/cm)	FLOW RATE (gpm)	TEMP. (c)	USE/REMARKS
1	7.51	756	35	9	
2	8.66	577	2	17	
3*	8.61	610	20	10	Cows
4	8.75	523	26	14	Pipe/Cows
5*	8.46	582	50	9	
6			Dry		
7*	8.54	410	685	12	Cows
8*	8.69	369	874	11	Cows & Sheep
LMC 1			Dry		
LMC 3			Dry		
LMC 4			Dry		

* Surface water

A logging company has widened the county road to accommodate trucks with the permission of Carbon County. Sample Site 5 water has been diverted from flowing over the road to flowing over a previously disturbed area covered with vegetation. Due to the widening of the road soil and vegetation have been pushed over the edge of the road temporarily blocking the drainage below Sample Site 5 and above Sample Site 3. Sample Site 3 has been disturbed and water rerouted into a new ditch dug by Carbon County personnel. Dust has significantly increased due to the logging activity. The logging camp is approximately 0.5 mile east of Sample Site 7.

HORIZON COAL CORPORATION WATER QUALITY SURVEY
AUGUST 8, 1995

SAMPLE SITE	pH (units)	COND. (umhos/cm)	FLOW RATE (gpm)	TEMP. (c)	USE/REMARKS
1	7.50	527	35	8	
2	8.18	641	2	9	Cows
3*	8.48	633	17	16	
4	8.27	685	13	13	Pipe/Cows
5*	8.56	629	50	13	
6			Dry		
7*	8.17	460	620	8	Cows & Sheep
8*	8.50	481	680	8	Cows
LMC 1			Dry		
LMC 3			Dry		
LMC 4			Dry		

* Surface water

HORIZON COAL CORPORATION WATER QUALITY SURVEY
 SEPTEMBER 22, 1995

SAMPLE SITE	pH (units)	COND. (umhos/cm)	FLOW RATE (gpm)	TEMP. (c)	USE/REMARKS
1	8.66	427	15	9	
2	7.52	486	2	8	
3*	8.56	374	12	14	
4	8.71	359	5	6	
5*	8.68	365	10	10	
6			Dry		
7*	8.37	308	402	7	Ice, Cows
8*	8.59	287	460	9	Cows
LMC 1			Dry		
LMC 3			Dry		
LMC 4			Dry		

* Surface water

HORIZON COAL CORPORATION WATER QUALITY SURVEY
OCTOBER 27, 1995

SAMPLE SITE	pH (units)	COND. (umhos/cm)	FLOW RATE (gpm)	TEMP. (c)	USE/REMARKS
1	8.32	771	10	7	Snow/Ice
2	8.40	732	1.5	8	
3*	8.34	741	8	3	
4	8.41	752	2	3	Pipe
5*	8.14	782	10	4	
6			Dry		
7*	8.05	434	350	7	Snow/Ice, Cows & Sheep
8*	8.02	466	402	1	Snow/Ice, Cows
LMC 1			Dry		
LMC 3			Dry		
LMC 4			Dry		

* Surface water

HORIZON COAL CORPORATION
Water Monitoring Report

Property: 1 & 2 Mine
Location: Station #1
Type: Spring
Year Sampled: 1995

FIELD MEASUREMENTS

Date Sampled	5/19	6/28	7/24	8/8	9/22	10/27	11/	12/
Flow (gpm)	80	50	35	35	15	10		
pH	8.44	8.24	7.51	7.50	8.66	8.32		
Sp. Cond. (ohms)	378	631	756	527	427	771		
Temp. C	8	12	9	8	9	7		

Laboratory samples for 1995 taken in May, August, and October.



DATE: 9-05-95

TO: EarthFax
7324 So. 1300 E. STE 100
Midvale, Utah 84047

SAMPLE ID: Lab #U031240
PROJECT: Horizon Coal Corp: #1
DATE SAMPLED: 8-08-95
DATE SUBMITTED: 8-08-95

CERTIFICATE OF ANALYSIS

<u>PARAMETER</u>	<u>DETECTED</u>	<u>DATE ANALYZED/METHOD</u>
Hardness as CaCO ₃ , mg/l	322	8-17-95 EPA 130.2
Ammonia as NH ₃ -N, mg/l	<.4	8-14-95 SM 4500G
Nitrate as NO ₃ -N, mg/l	0.086	8-14-95 EPA 353.1
Nitrite as NO ₂ -N, mg/l	<.005	8-09-95 EPA 354.1
Phosphorus as P (T), mg/l	1.83	8-11-95 SM 4500
TSS, mg/l	3.5	8-09-95 EPA 160.2
Bicarbonate as HCO ₃ , mg/l	372	8-16-95 SM 2320B
Carbonate as CO ₃ , mg/l	<1	8-16-95 SM 2320B
Fluoride as F, mg/l	0.24	8-09-95 EPA 340.2
Sulfate as SO ₄ , mg/l	25	8-14-95 EPA 375.4
TDS, mg/l	365	8-09-95 EPA 160.1
Settleable Solids, ml/l	<.2	8-09-95 EPA 160.5
Calcium as Ca, mg/l	98	8-09-95 EPA 200.7
Chloride as Cl, mg/l	5.9	8-15-95 EPA 325.3
Aluminum as Al, mg/l	0.022	8-09-95 EPA 200.7
Barium as Ba, mg/l	0.055	8-09-95 EPA 200.7
Boron as B, mg/l	<.04	8-09-95 EPA 200.7
Copper as Cu, mg/l	<.01	8-09-95 EPA 200.7

Approved By: 



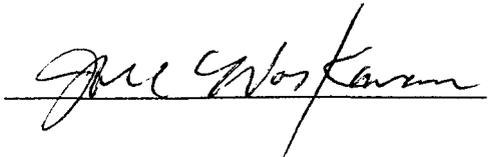
DATE: 9-05-95

TO: EarthFax
7324 So. 1300 E. STE 100
Midvale, Utah 84047

SAMPLE ID: Lab #U031240
PROJECT: Horizon Coal Corp: #1
DATE SAMPLED: 8-08-95
DATE SUBMITTED: 8-08-95

CERTIFICATE OF ANALYSIS

<u>PARAMETER</u>	<u>DETECTED</u>	<u>DATE ANALYZED/METHOD</u>
Lead as Pb, mg/l	<.02	8-09-95 EPA 200.7
Manganese as Mn, mg/l	<.01	8-09-95 EPA 200.7
Molybdenum as Mo, mg/l	<.04	8-09-95 EPA 200.7
Selenium as Se, mg/l	<.04	8-09-95 EPA 200.7
Sodium as Na, mg/l	5.4	8-09-95 EPA 200.7
Sulfide as S, mg/l	<.1	8-16-95 EPA 376.1
Arsenic as As, mg/l	<.04	8-09-95 EPA 200.7
Cadmium as Cd, mg/l	<.01	8-09-95 EPA 200.7
Chromium as Cr, mg/l	<.01	8-09-95 EPA 200.7
Iron as Fe, mg/l	0.013	8-09-95 EPA 200.7
Magnesium as Mg, mg/l	24	8-09-95 EPA 200.7
Mercury as Hg, mg/l	<.0002	8-15-95 EPA 245.1
Nickel as Ni, mg/l	<.01	8-09-95 EPA 200.7
Potassium as K, mg/l	2.0	8-09-95 EPA 200.7
Zinc as Zn, mg/l	0.056	8-09-95 EPA 200.7
Cation, meq/l	7.15	
Anion, meq/l	6.84	

Approved By: 

HORIZON COAL CORPORATION
Water Monitoring Report

Property: 1 & 2 Mine
Location: Station #2
Type: Spring
Year Sampled: 1995

FIELD MEASUREMENTS

Date Sampled	5/19	6/28	7/24	8/8	9/22	10/27	11/	12/
Flow (gpm)	2	2	2	2	2	1.5		
pH	7.75	8.27	8.66	8.18	7.52	8.40		
Sp. Cond. (ohms)	572	1045	577	641	486	732		
Temp. C	8	10	17	9	8	8		

Laboratory samples for 1995 taken in May, August, and October.



DATE: 9-05-95

TO: EarthFax
7324 So. 1300 E. STE 100
Midvale, Utah 84047

SAMPLE ID: Lab #U031241
PROJECT: Horizon Coal Corp: #2
DATE SAMPLED: 8-08-95
DATE SUBMITTED: 8-08-95

CERTIFICATE OF ANALYSIS

<u>PARAMETER</u>	<u>DETECTED</u>	<u>DATE ANALYZED/METHOD</u>
Hardness as CaCO ₃ , mg/l	462	8-17-95 EPA 130.2
Ammonia as NH ₃ -N, mg/l	<.4	8-14-95 SM 4500G
Nitrate as NO ₃ -N, mg/l	<.02	8-14-95 EPA 353.1
Nitrite as NO ₂ -N, mg/l	0.0052	8-09-95 EPA 354.1
Phosphorus as P (T), mg/l	0.12	8-11-95 SM 4500
TSS, mg/l	22	8-09-95 EPA 160.2
Bicarbonate as HCO ₃ , mg/l	394	8-16-95 SM 2320B
Carbonate as CO ₃ , mg/l	<1	8-16-95 SM 2320B
Fluoride as F, mg/l	0.24	8-09-95 EPA 340.2
Sulfate as SO ₄ , mg/l	104	8-14-95 SM 4500
TDS, mg/l	611	8-09-95 EPA 160.1
Settleable Solids, ml/l	<.2	8-09-95 EPA 160.5
Calcium as Ca, mg/l	110	8-09-95 EPA 200.7
Chloride as Cl, mg/l	17.7	8-15-95 EPA 325.3
Aluminum as Al, mg/l	0.069	8-09-95 EPA 200.7
Barium as Ba, mg/l	0.038	8-09-95 EPA 200.7
Boron as B, mg/l	<.04	8-09-95 EPA 200.7
Copper as Cu, mg/l	<.01	8-09-95 EPA 200.7

Approved By: _____



DATE: 9-05-95

TO: EarthFax
7324 So. 1300 E. STE 100
Midvale, Utah 84047

SAMPLE ID: Lab #U031241
PROJECT: Horizon Coal Corp: #2
DATE SAMPLED: 8-08-95
DATE SUBMITTED: 8-08-95

CERTIFICATE OF ANALYSIS

<u>PARAMETER</u>	<u>DETECTED</u>	<u>DATE ANALYZED/METHOD</u>
Lead as Pb, mg/l	<.02	8-09-95 EPA 200.7
Manganese as Mn, mg/l	<.01	8-09-95 EPA 200.7
Molybdenum as Mo, mg/l	<.04	8-09-95 EPA 200.7
Selenium as Se, mg/l	<.04	8-09-95 EPA 200.7
Sodium as Na, mg/l	11	8-09-95 EPA 200.7
Sulfide as S, mg/l	0.26	8-16-95 EPA 376.1
Arsenic as As, mg/l	<.04	8-09-95 EPA 200.7
Cadmium as Cd, mg/l	<.01	8-09-95 EPA 200.7
Chromium as Cr, mg/l	<.01	8-09-95 EPA 200.7
Iron as Fe, mg/l	0.052	8-09-95 EPA 200.7
Magnesium as Mg, mg/l	49	8-09-95 EPA 200.7
Mercury as Hg, mg/l	<.0002	8-15-95 EPA 245.1
Nickel as Ni, mg/l	<.01	8-09-95 EPA 200.7
Potassium as K, mg/l	5.9	8-09-95 EPA 200.7
Zinc as Zn, mg/l	0.021	8-09-95 EPA 200.7
Cation, meq/l	10.15	
Anion, meq/l	9.12	

Approved By: _____

HORIZON COAL CORPORATION
Water Monitoring Report

Property: 1 & 2 Mine
Location: Station #4
Type: Spring
Year Sampled: 1995

FIELD MEASUREMENTS

Date Sampled	5/19	6/28	7/24	8/8	9/22	10/27	11/	12/
Flow (gpm)	35	35	26	13	5	2		
pH	8.56	8.42	8.75	8.27	8.71	8.41		
Sp. Cond. (ohms)	523	856	523	685	359	752		
Temp. C	6	12	14	13	6	3		

Laboratory samples for 1995 taken in May, August, and October.



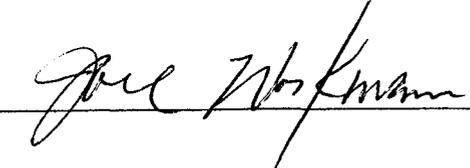
DATE: 9-05-95

TO: EarthFax
7324 So. 1300 E. STE 100
Midvale, Utah 84047

SAMPLE ID: Lab #U031243
PROJECT: Horizon Coal Corp: #4
DATE SAMPLED: 8-08-95
DATE SUBMITTED: 8-08-95

CERTIFICATE OF ANALYSIS

<u>PARAMETER</u>	<u>DETECTED</u>	<u>DATE ANALYZED/METHOD</u>
Lead as Pb, mg/l	<.02	8-09-95 EPA 200.7
Manganese as Mn, mg/l	0.027	8-09-95 EPA 200.7
Molybdenum as Mo, mg/l	<.04	8-09-95 EPA 200.7
Selenium as Se, mg/l	<.04	8-09-95 EPA 200.7
Sodium as Na, mg/l	11	8-09-95 EPA 200.7
Sulfide as S, mg/l	<.1	8-16-95 EPA 376.1
Arsenic as As, mg/l	<.04	8-09-95 EPA 200.7
Cadmium as Cd, mg/l	<.01	8-09-95 EPA 200.7
Chromium as Cr, mg/l	<.01	8-09-95 EPA 200.7
Iron as Fe, mg/l	1.1	8-09-95 EPA 200.7
Magnesium as Mg, mg/l	47	8-09-95 EPA 200.7
Mercury as Hg, mg/l	<.0002	8-15-95 EPA 245.1
Nickel as Ni, mg/l	<.01	8-09-95 EPA 200.7
Potassium as K, mg/l	3.5	8-09-95 EPA 200.7
Zinc as Zn, mg/l	0.063	8-09-95 EPA 200.7
Cation, meq/l	7.64	
Anion, meq/l	7.71	

Approved By: 

HORIZON COAL CORPORATION
Well Monitoring Report

Location: LMC 1
Year Sampled: 1995

FIELD MEASUREMENTS

Date Sampled	5/26	8/8	10/27
Flow (gpm)	Dry	Dry	Dry
pH			
Sp. Cond. (ohms)			
Temp. C			

Location: LMC 3
Year Sampled: 1995

FIELD MEASUREMENTS

Date Sampled	5/26	8/8	10/27
Flow (gpm)	Dry	Dry	Dry
pH			
Sp. Cond. (ohms)			
Temp. C			

Location: LMC 4
Year Sampled: 1995

FIELD MEASUREMENTS

Date Sampled	5/26	8/8	10/27
Flow (gpm)	Dry	Dry	Dry
pH			
Sp. Cond. (ohms)			
Temp. C			

Horizon Coal Corporation
November 8, 1995

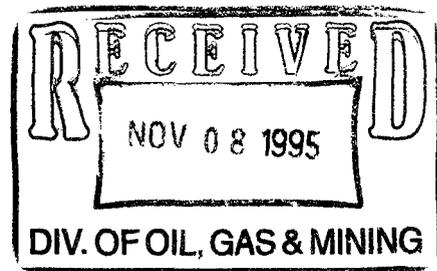
PLEASE
ADD THE ATTACHED DATA
TO THE BACK OF

APPENDIX 7-3
SURFACE WATER DATA

HORIZON COAL CORPORATION WATER QUALITY SURVEY
MAY 19 & 26, 1995

SAMPLE SITE	pH (units)	COND. (umhos/cm)	FLOW RATE (gpm)	TEMP. (c)	USE/REMARKS
1	8.44	378	80	8	
2	7.75	572	2	8	
3*	8.35	514	25	12	
4	8.56	523	35	6	Pipe
5*	8.06	600	210	7	Running along Road
6			Dry		
7*	8.07	275	5150	12	
8*	8.68	289	3016	15	
Water Box	8.23	566	45	7	
LMC 1			Dry		
LMC 3			Dry		
LMC 4			Dry		

* Surface water



HORIZON COAL CORPORATION WATER QUALITY SURVEY
JUNE 28, 1995

SAMPLE SITE	pH (units)	COND. (umhos/cm)	FLOW RATE (gpm)	TEMP. (c)	USE/REMARKS
1	8.24	631	50	12	
2	8.27	1045	2	10	
3*	8.33	906	25	17	Cows
4	8.42	856	35	12	Pipe/Cows
5*	8.20	891	70	12	Cows/Running along Road
6			Dry		
7*	8.41	979	2730	12	Cows
8*	8.31	906	1576	12	Cows
Water Box	8.40	1000	45	8	
LMC 1			Dry		
LMC 3			Dry		
LMC 4			Dry		

* Surface water

HORIZON COAL CORPORATION WATER QUALITY SURVEY
JULY 24, 1995

SAMPLE SITE	pH (units)	COND. (umhos/cm)	FLOW RATE (gpm)	TEMP. (c)	USE/REMARKS
1	7.51	756	35	9	
2	8.66	577	2	17	
3*	8.61	610	20	10	Cows
4	8.75	523	26	14	Pipe/Cows
5*	8.46	582	50	9	
6			Dry		
7*	8.54	410	685	12	Cows
8*	8.69	369	874	11	Cows & Sheep
LMC 1			Dry		
LMC 3			Dry		
LMC 4			Dry		

* Surface water

A logging company has widened the county road to accommodate trucks with the permission of Carbon County. Sample Site 5 water has been diverted from flowing over the road to flowing over a previously disturbed area covered with vegetation. Due to the widening of the road soil and vegetation have been pushed over the edge of the road temporarily blocking the drainage below Sample Site 5 and above Sample Site 3. Sample Site 3 has been disturbed and water rerouted into a new ditch dug by Carbon County personnel. Dust has significantly increased due to the logging activity. The logging camp is approximately 0.5 mile east of Sample Site 7.

HORIZON COAL CORPORATION WATER QUALITY SURVEY
AUGUST 8, 1995

SAMPLE SITE	pH (units)	COND. (umhos/cm)	FLOW RATE (gpm)	TEMP. (c)	USE/REMARKS
1	7.50	527	35	8	
2	8.18	641	2	9	Cows
3*	8.48	633	17	16	
4	8.27	685	13	13	Pipe/Cows
5*	8.56	629	50	13	
6			Dry		
7*	8.17	460	620	8	Cows & Sheep
8*	8.50	481	680	8	Cows
LMC 1			Dry		
LMC 3			Dry		
LMC 4			Dry		

* Surface water

HORIZON COAL CORPORATION WATER QUALITY SURVEY
SEPTEMBER 22, 1995

SAMPLE SITE	pH (units)	COND. (umhos/cm)	FLOW RATE (gpm)	TEMP. (c)	USE/REMARKS
1	8.66	427	15	9	
2	7.52	486	2	8	
3*	8.56	374	12	14	
4	8.71	359	5	6	
5*	8.68	365	10	10	
6			Dry		
7*	8.37	308	402	7	Ice, Cows
8*	8.59	287	460	9	Cows
LMC 1			Dry		
LMC 3			Dry		
LMC 4			Dry		

* Surface water

HORIZON COAL CORPORATION WATER QUALITY SURVEY
OCTOBER 27, 1995

SAMPLE SITE	pH (units)	COND. (umhos/cm)	FLOW RATE (gpm)	TEMP. (c)	USE/REMARKS
1	8.32	771	10	7	Snow/Ice
2	8.40	732	1.5	8	
3*	8.34	741	8	3	
4	8.41	752	2	3	Pipe
5*	8.14	782	10	4	
6			Dry		
7*	8.05	434	350	7	Snow/Ice, Cows & Sheep
8*	8.02	466	402	1	Snow/Ice, Cows
LMC 1			Dry		
LMC 3			Dry		
LMC 4			Dry		

* Surface water

HORIZON COAL CORPORATION
Water Monitoring Report

Property: 1 & 2 Mine
Location: Station #3
Type: Stream
Year Sampled: 1995

FIELD MEASUREMENTS

Date Sampled	5/19	6/28	7/24	8/8	9/22	10/27	11/	12/
Flow (gpm)	25	25	20	17	12	8		
pH	8.35	8.33	8.61	8.48	8.56	8.34		
Sp. Cond. (ohms)	514	906	610	633	374	741		
Temp. C	12	17	10	16	14	3		

Laboratory samples for 1995 taken in May, August, and October.



DATE: 9-05-95

TO: EarthFax
7324 So. 1300 E. STE 100
Midvale, Utah 84047

SAMPLE ID: Lab #U031242
PROJECT: Horizon Coal Corp: #3
DATE SAMPLED: 8-08-95
DATE SUBMITTED: 8-08-95

CERTIFICATE OF ANALYSIS

<u>PARAMETER</u>	<u>DETECTED</u>	<u>DATE ANALYZED/METHOD</u>
Hardness as CaCO ₃ , mg/l	385	8-17-95 EPA 130.2
Ammonia as NH ₃ -N, mg/l	<.4	8-14-95 SM 4500G
Nitrate as NO ₃ -N, mg/l	<.02	8-14-95 EPA 353.1
Nitrite as NO ₂ -N, mg/l	0.0050	8-09-95 EPA 354.1
Phosphorus as P (T), mg/l	0.12	8-11-95 SM 4500
TSS, mg/l	9.0	8-09-95 EPA 160.2
Bicarbonate as HCO ₃ , mg/l	349	8-16-95 SM 2320B
Carbonate as CO ₃ , mg/l	3	8-16-95 SM 2320B
Fluoride as F, mg/l	<.5	8-09-95 EPA 340.2
Sulfate as SO ₄ , mg/l	106	8-14-95 SM 4500
TDS, mg/l	525	8-09-95 EPA 160.1
Settleable Solids, ml/l	<.2	8-09-95 EPA 160.5
Oil & Grease, mg/l	6.4	8-09/14 EPA 413.1
Calcium as Ca, mg/l	74	8-09-95 EPA 200.7
Chloride as Cl, mg/l	19.8	8-15-95 EPA 325.3
Aluminum as Al, mg/l	0.61	8-09-95 EPA 200.7
Barium as Ba, mg/l	0.050	8-09-95 EPA 200.7
Boron as B, mg/l	0.091	8-09-95 EPA 200.7
Copper as Cu, mg/l	<.01	8-09-95 EPA 200.7

Approved By: _____



DATE: 9-05-95

TO: EarthFax
7324 So. 1300 E. STE 100
Midvale, Utah 84047

SAMPLE ID: Lab #U031242
PROJECT: Horizon Coal Corp: #3
DATE SAMPLED: 8-08-95
DATE SUBMITTED: 8-08-95

CERTIFICATE OF ANALYSIS

<u>PARAMETER</u>	<u>DETECTED</u>	<u>DATE ANALYZED/METHOD</u>
Lead as Pb, mg/l	<.02	8-09-95 EPA 200.7
Manganese as Mn, mg/l	0.011	8-09-95 EPA 200.7
Molybdenum as Mo, mg/l	<.04	8-09-95 EPA 200.7
Selenium as Se, mg/l	<.04	8-09-95 EPA 200.7
Sodium as Na, mg/l	13	8-09-95 EPA 200.7
Sulfide as S, mg/l	<.1	8-16-95 EPA 376.1
Arsenic as As, mg/l	<.04	8-09-95 EPA 200.7
Cadmium as Cd, mg/l	<.01	8-09-95 EPA 200.7
Chromium as Cr, mg/l	<.01	8-09-95 EPA 200.7
Iron as Fe, mg/l	0.37	8-09-95 EPA 200.7
Magnesium as Mg, mg/l	53	8-09-95 EPA 200.7
Mercury as Hg, mg/l	<.0002	8-15-95 EPA 245.1
Nickel as Ni, mg/l	<.01	8-09-95 EPA 200.7
Potassium as K, mg/l	3.8	8-09-95 EPA 200.7
Zinc as Zn, mg/l	0.016	8-09-95 EPA 200.7
Cation, meq/l	8.71	
Anion, meq/l	8.58	

Approved By: _____

HORIZON COAL CORPORATION
Water Monitoring Report

Property: 1 & 2 Mine
Location: Station #5
Type: Stream
Year Sampled: 1995

FIELD MEASUREMENTS

Date Sampled	5/19	6/23	7/24	8/8	9/22	10/27	11/	12/
Flow (gpm)	210	70	50	50	10	10		
pH	8.06	8.20	8.46	8.56	8.68	8.14		
Sp. Cond. (ohms)	600	891	582	629	365	782		
Temp. C	7	12	9	13	10	4		

Laboratory samples for 1995 taken in May, August, and October.



DATE: 9-05-95

TO: EarthFax
7324 So. 1300 E. STE 100
Midvale, Utah 84047

SAMPLE ID: Lab #U031244
PROJECT: Horizon Coal Corp: #5
DATE SAMPLED: 8-08-95
DATE SUBMITTED: 8-08-95

CERTIFICATE OF ANALYSIS

<u>PARAMETER</u>	<u>DETECTED</u>	<u>DATE ANALYZED/METHOD</u>
Hardness as CaCO ₃ , mg/l	375	8-17-95 EPA 130.2
Ammonia as NH ₃ -N, mg/l	<.4	8-14-95 SM 4500G
Nitrate as NO ₃ -N, mg/l	<.02	8-14-95 EPA 353.1
Nitrite as NO ₂ -N, mg/l	0.0056	8-09-95 EPA 354.1
Phosphorus as P (T), mg/l	0.047	8-11-95 SM 4500
TSS, mg/l	8.0	8-09-95 EPA 160.2
Bicarbonate as HCO ₃ , mg/l	346	8-16-95 SM 2320B
Carbonate as CO ₃ , mg/l	7	8-16-95 SM 2320B
Fluoride as F, mg/l	0.30	8-09-95 EPA 340.2
Sulfate as SO ₄ , mg/l	94	8-14-95 SM 4500
TDS, mg/l	489	8-09-95 EPA 160.1
Settleable Solids, ml/l	<.2	8-09-95 EPA 160.5
Oil & Grease, mg/l	5.8	8-09/14 EPA 413.1
Calcium as Ca, mg/l	73	8-09-95 EPA 200.7
Chloride as Cl, mg/l	17.1	8-15-95 EPA 325.3
Aluminum as Al, mg/l	0.23	8-09-95 EPA 200.7
Barium as Ba, mg/l	0.041	8-09-95 EPA 200.7
Boron as B, mg/l	0.066	8-09-95 EPA 200.7
Copper as Cu, mg/l	<.01	8-09-95 EPA 200.7

Approved By: _____



DATE: 9-05-95

TO: EarthFax
7324 So. 1300 E. STE 100
Midvale, Utah 84047

SAMPLE ID: Lab #U031244
PROJECT: Horizon Coal Corp: #5
DATE SAMPLED: 8-08-95
DATE SUBMITTED: 8-08-95

CERTIFICATE OF ANALYSIS

<u>PARAMETER</u>	<u>DETECTED</u>	<u>DATE ANALYZED/METHOD</u>
Lead as Pb, mg/l	<.02	8-09-95 EPA 200.7
Manganese as Mn, mg/l	<.01	8-09-95 EPA 200.7
Molybdenum as Mo, mg/l	<.04	8-09-95 EPA 200.7
Selenium as Se, mg/l	<.04	8-09-95 EPA 200.7
Sodium as Na, mg/l	10	8-09-95 EPA 200.7
Sulfide as S, mg/l	<.1	8-16-95 EPA 376.1
Arsenic as As, mg/l	<.04	8-09-95 EPA 200.7
Cadmium as Cd, mg/l	<.01	8-09-95 EPA 200.7
Chromium as Cr, mg/l	<.01	8-09-95 EPA 200.7
Iron as Fe, mg/l	0.14	8-09-95 EPA 200.7
Magnesium as Mg, mg/l	46	8-09-95 EPA 200.7
Mercury as Hg, mg/l	<.0002	8-15-95 EPA 245.1
Nickel as Ni, mg/l	<.01	8-09-95 EPA 200.7
Potassium as K, mg/l	3.5	8-09-95 EPA 200.7
Zinc as Zn, mg/l	0.021	8-09-95 EPA 200.7
Cation, meq/l	7.95	
Anion, meq/l	7.93	

Approved By: _____

HORIZON COAL CORPORATION
Water Monitoring Report

Property: 1 & 2 Mine
Location: Station #7
Type: Stream
Year Sampled: 1995

FIELD MEASUREMENTS

Date Sampled	5/26	6/23	7/24	8/8	9/22	10/27	11/	12/
Flow (gpm)	5150	2730	685	620	402	350		
pH	8.07	8.41	8.54	8.17	8.37	8.05		
Sp. Cond. (ohms)	275	979	410	460	308	434		
Temp. C	12	12	12	8	7	7		

Laboratory samples for 1995 taken in May, August, and October.



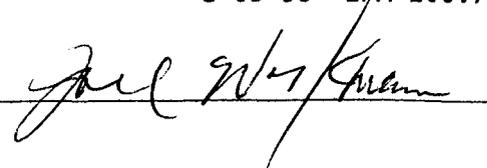
DATE: 9-05-95

TO: EarthFax
7324 So. 1300 E. STE 100
Midvale, Utah 84047

SAMPLE ID: Lab #U031245
PROJECT: Horizon Coal Corp: #7
DATE SAMPLED: 8-08-95
DATE SUBMITTED: 8-08-95

CERTIFICATE OF ANALYSIS

<u>PARAMETER</u>	<u>DETECTED</u>	<u>DATE ANALYZED/METHOD</u>
Hardness as CaCO ₃ , mg/l	288	8-17-95 EPA 130.2
Ammonia as NH ₃ -N, mg/l	<.4	8-14-95 SM 4500G
Nitrate as NO ₃ -N, mg/l	0.63	8-14-95 EPA 353.1
Nitrite as NO ₂ -N, mg/l	0.0052	8-09-95 EPA 354.1
Phosphorus as P (T), mg/l	0.079	8-11-95 SM 4500
TSS, mg/l	5.0	8-09-95 EPA 160.2
Bicarbonate as HCO ₃ , mg/l	330	8-16-95 SM 2320B
Carbonate as CO ₃ , mg/l	<1	8-16-95 SM 2320B
Fluoride as F, mg/l	<.2	8-09-95 EPA 340.2
Sulfate as SO ₄ , mg/l	24	8-14-95 EPA 375.4
TDS, mg/l	353	8-09-95 EPA 160.1
Settleable Solids, ml/l	<.2	8-09-95 EPA 160.5
Oil & Grease, mg/l	<5	8-09/14 EPA 413.1
Calcium as Ca, mg/l	89	8-09-95 EPA 200.7
Chloride as Cl, mg/l	8.8	8-15-95 EPA 325.3
Aluminum as Al, mg/l	1.4	8-09-95 EPA 200.7
Barium as Ba, mg/l	0.073	8-09-95 EPA 200.7
Boron as B, mg/l	0.031	8-09-95 EPA 200.7
Copper as Cu, mg/l	<.01	8-09-95 EPA 200.7

Approved By: 



DATE: 9-05-95

TO: EarthFax
7324 So. 1300 E. STE 100
Midvale, Utah 84047

SAMPLE ID: Lab #U031245
PROJECT: Horizon Coal Corp: #7
DATE SAMPLED: 8-08-95
DATE SUBMITTED: 8-08-95

CERTIFICATE OF ANALYSIS

<u>PARAMETER</u>	<u>DETECTED</u>	<u>DATE ANALYZED/METHOD</u>
Lead as Pb, mg/l	<.02	8-09-95 EPA 200.7
Manganese as Mn, mg/l	0.15	8-09-95 EPA 200.7
Molybdenum as Mo, mg/l	<.04	8-09-95 EPA 200.7
Selenium as Se, mg/l	<.04	8-09-95 EPA 200.7
Sodium as Na, mg/l	6.0	8-09-95 EPA 200.7
Sulfide as S, mg/l	<.1	8-16-95 EPA 376.1
Arsenic as As, mg/l	<.04	8-09-95 EPA 200.7
Cadmium as Cd, mg/l	<.01	8-09-95 EPA 200.7
Chromium as Cr, mg/l	<.01	8-09-95 EPA 200.7
Iron as Fe, mg/l	2.0	8-09-95 EPA 200.7
Magnesium as Mg, mg/l	14	8-09-95 EPA 200.7
Mercury as Hg, mg/l	<.0002	8-15-95 EPA 245.1
Nickel as Ni, mg/l	<.01	8-09-95 EPA 200.7
Potassium as K, mg/l	1.4	8-09-95 EPA 200.7
Zinc as Zn, mg/l	0.07	8-09-95 EPA 200.7
Cation, meq/l	6.15	
Anion, meq/l	6.16	

Approved By: _____

HORIZON COAL CORPORATION
Water Monitoring Report

Property: 1 & 2 Mine
Location: Station #8
Type: Stream
Year Sampled: 1995

FIELD MEASUREMENTS

Date Sampled	5/26	6/28	7/24	8/8	9/22	10/27	11/	12/
Flow (gpm)	3016	1576	874	680	460	402		
pH	8.68	8.31	8.69	8.50	8.59	8.02		
Sp. Cond. (ohms)	289	906	369	481	287	466		
Temp. C	15	12	11	8	9	1		

Laboratory samples for 1995 taken in May, August, and October.



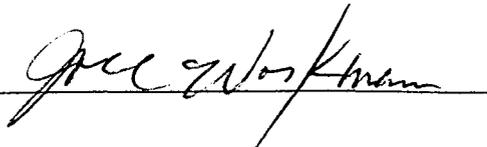
DATE: 9-05-95

TO: EarthFax
7324 So. 1300 E. STE 100
Midvale, Utah 84047

SAMPLE ID: Lab #U031246
PROJECT: Horizon Coal Corp: #8
DATE SAMPLED: 8-08-95
DATE SUBMITTED: 8-08-95

CERTIFICATE OF ANALYSIS

<u>PARAMETER</u>	<u>DETECTED</u>	<u>DATE ANALYZED/METHOD</u>
Hardness as CaCO ₃ , mg/l	285	8-17-95 EPA 130.2
Ammonia as NH ₃ -N, mg/l	<.4	8-14-95 SM 4500G
Nitrate as NO ₃ -N, mg/l	0.88	8-14-95 EPA 353.1
Nitrite as NO ₂ -N, mg/l	0.0090	8-09-95 EPA 354.1
Phosphorus as P (T), mg/l	0.032	8-11-95 SM 4500
TSS, mg/l	5.8	8-09-95 EPA 160.2
Bicarbonate as HCO ₃ , mg/l	305	8-16-95 SM 2320B
Carbonate as CO ₃ , mg/l	<1	8-16-95 SM 2320B
Fluoride as F, mg/l	<.2	8-09-95 EPA 340.2
Sulfate as SO ₄ , mg/l	20	8-14-95 EPA 375.4
TDS, mg/l	339	8-09-95 EPA 160.1
Settleable Solids, ml/l	<.2	8-09-95 EPA 160.5
Oil & Grease, mg/l	<5	8-09/14 EPA 413.1
Calcium as Ca, mg/l	90	8-09-95 EPA 200.7
Chloride as Cl, mg/l	6.0	8-15-95 EPA 325.3
Aluminum as Al, mg/l	0.091	8-09-95 EPA 200.7
Barium as Ba, mg/l	0.034	8-09-95 EPA 200.7
Boron as B, mg/l	0.031	8-09-95 EPA 200.7
Copper as Cu, mg/l	<.01	8-09-95 EPA 200.7

Approved By: 



DATE: 9-05-95

TO: EarthFax
7324 So. 1300 E. STE 100
Midvale, Utah 84047

SAMPLE ID: Lab #U031246
PROJECT: Horizon Coal Corp: #8
DATE SAMPLED: 8-08-95
DATE SUBMITTED: 8-08-95

CERTIFICATE OF ANALYSIS

<u>PARAMETER</u>	<u>DETECTED</u>	<u>DATE ANALYZED/METHOD</u>
Lead as Pb, mg/l	<.02	8-09-95 EPA 200.7
Manganese as Mn, mg/l	0.021	8-09-95 EPA 200.7
Molybdenum as Mo, mg/l	<.01	8-09-95 EPA 200.7
Selenium as Se, mg/l	<.04	8-09-95 EPA 200.7
Sodium as Na, mg/l	3.9	8-09-95 EPA 200.7
Sulfide as S, mg/l	<.1	8-16-95 EPA 376.1
Arsenic as As, mg/l	<.04	8-09-95 EPA 200.7
Cadmium as Cd, mg/l	<.01	8-09-95 EPA 200.7
Chromium as Cr, mg/l	<.01	8-09-95 EPA 200.7
Iron as Fe, mg/l	0.089	8-09-95 EPA 200.7
Magnesium as Mg, mg/l	16	8-09-95 EPA 200.7
Mercury as Hg, mg/l	<.0002	8-15-95 EPA 245.1
Nickel as Ni, mg/l	<.01	8-09-95 EPA 200.7
Potassium as K, mg/l	1.3	8-09-95 EPA 200.7
Zinc as Zn, mg/l	0.012	8-09-95 EPA 200.7
Cation, meq/l	6.01	
Anion, meq/l	5.58	

Approved By: 