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RECEIVED #6 OCTOBER

EarthFax

Engineering, Inc.
Engineers/Scientists

NOV 2 1985

DIVISION OF OIL
GAS & MINING

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Re: Contract 85-5323
November Monthly Report
DIVISION OF OIL
GAS & MINING

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DIVISION OF OIL
GAS & MINING

November 18, 1985

Mr. Dave Hooper
Reclamation Hydrologist
Utah Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Dave:

Several project tasks were completed on Contract 85-5323 during the month of October. The fall seep and spring inventory was completed, channel samples were collected from the overburden, coal and the underburden, the charts were changed on the water level recorders and the recording rain gage, and stream flow measurements were collected from Chalk Creek.

Stream Stations

Charts were changed on the Chalk Creek and intermittent stream water level recorders. Copies of the charts are included in Appendix A. As noted, only one flow period occurred in the intermittent stream during the previous month.

Streamflow measurements were collected from the upper and lower Chalk Creek stations on October 12, 1985. The field data from these measurements are included in Appendix A.

Mr. Dave Hooper
November 18, 1985
Page 2

Recording Rain Gage

The chart on the recording raingage was changed and the bucket emptied during the October field trip. A copy of the chart is included in Appendix B. Two major rainfall events occurred during the previous month.

Water Quality Analytical Results

The laboratory results for the October 12, 1985 samples from the Morby and Boyer wells were received. The laboratory water quality data are included in Appendix C.

Ephemeral Streams

One flow event occurred in the intermittent stream during October. The chart from this event is included in Appendix A.

Seep and Spring Survey

The fall seep and spring survey was conducted on October 24 and 25, 1985. The results of the seep and spring survey are contained in Appendix D.

Lithologic Samples

Channel samples were collected from the overburden, coal and underburden at the mine site. The samples were taken from a fresh, recently exposed cutslope near the portal. These samples, in combination with samples from the core, will be analyzed by Chemical and Mineralogical Services for the appropriate parameters.

Our next regular monthly field trip is scheduled for November 22, 1985. If you have any questions or need additional information, please call.

Sincerely,



Randolph B. Gainer
Project Manager

Enclosures

Appendix A

Streamflow Information

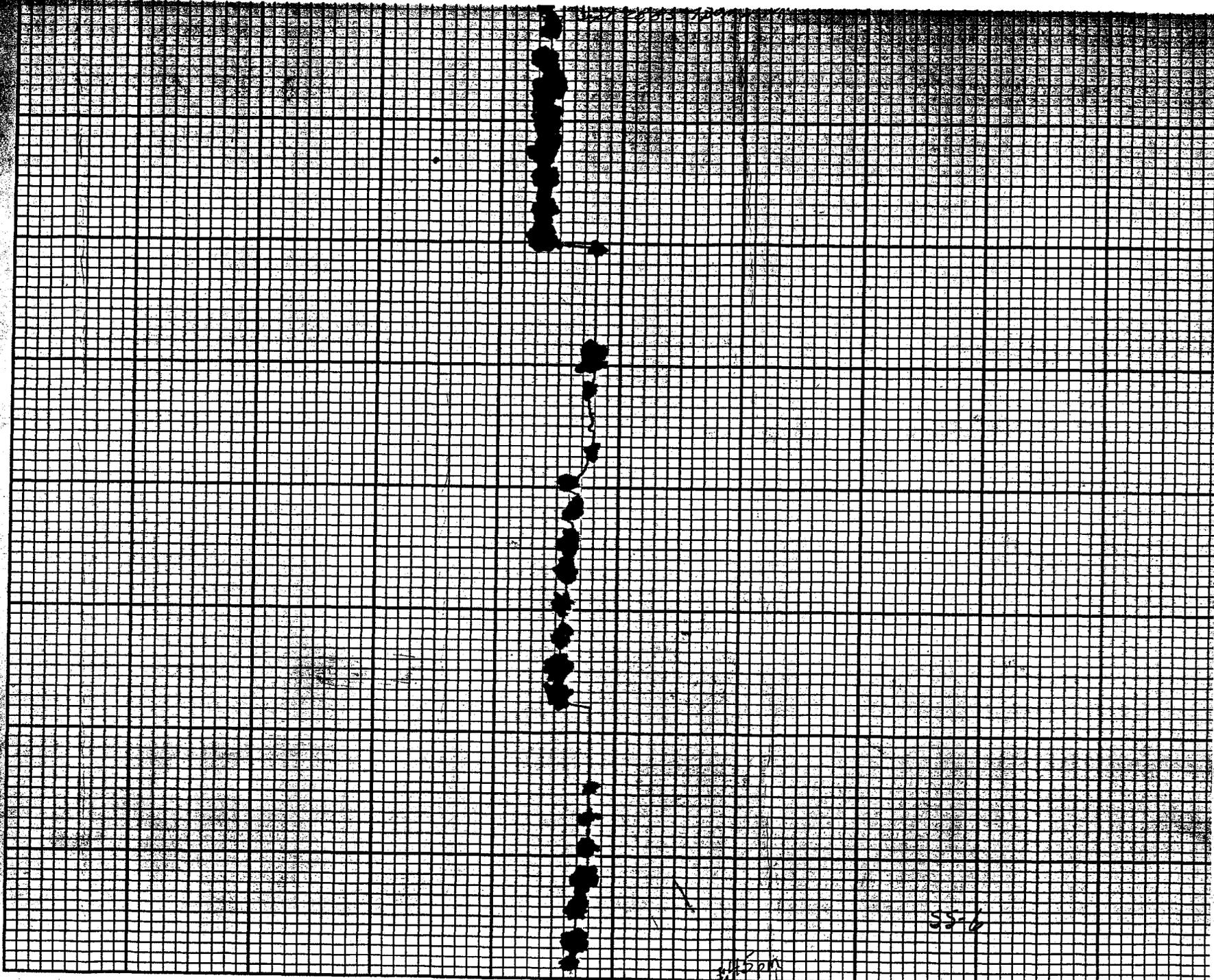
Station 55-5
Date: 10/28/85

Sta	Depth (ft)	Revs	Water <u>clear</u>		
			T (sec)	V (ft/sec)	Q (cfs)
0-3.0	.55	30	41	1.62	2.67
3.0-6.0	.50	45	41	2.41	3.61
6.0-9.0	.60	50	42	2.61	4.69
9.0-12.0	.40	40	40	2.20	2.64
12.0-15.0	.50	50	49	2.24	3.36
15.0-18.0	.45	30	40	1.65	2.22
18.0-21.0	.35	25	47	1.18	1.23
21.0-24.0	.28	20	42	1.06	.89
24.0-27.0	.15	20	47	.948	.0043
					21.3 cfs

556
Date: 10/28/85

Sta	Depth (ft)	Revs	Water <u>clear</u>		
			T (sec)	V (ft/sec)	Q (cfs)
0-3.5	.15	-	-	-	(No flow)
3.5-7.0	.55	50	48	2.29	4.41
7.0-10.5	.70	40	41	2.15	5.27
10.5-14.0	.60	40	40	2.20	4.62
14.0-17.5	.70	40	43	2.05	5.02
17.5-21.0	.70	50	44	2.50	6.13
21.0-24.5	.50	30	41	1.62	2.84
24.5-28.0	.25	20	47	.95	.83
28.0-31.5	.25	5	60	.20	.18
					<u>29.33</u>





11-25-72

SS-6

11/20/72

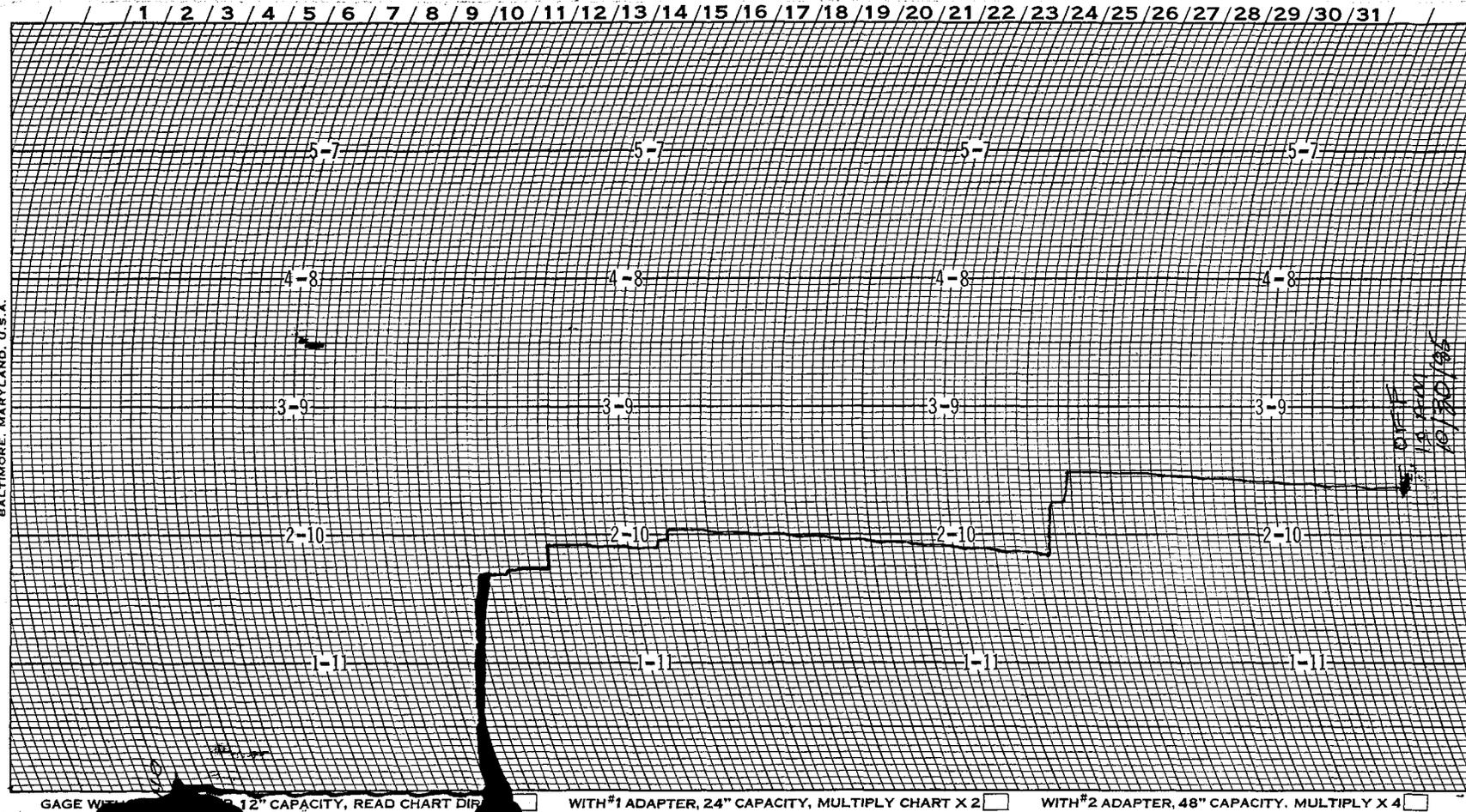
Appendix B
Raingage Chart

PRINTED IN U.S.A.

CHART NO. 15668

12-INCH DUAL TRAVERSE MONTHLY
UNIVERSAL RAIN GAGE

BELFORT INSTRUMENT COMPANY
BALTIMORE, MARYLAND, U.S.A.



GAGE WITH #1 ADAPTER, 12" CAPACITY, READ CHART DIRECTLY

WITH #1 ADAPTER, 24" CAPACITY, MULTIPLY CHART X 2

WITH #2 ADAPTER, 48" CAPACITY, MULTIPLY X 4

Appendix C
Water Quality Results

Appendix D

Seep and Spring Survey Results

EarthFax Engineering, Inc.
6542 South 670 West
Murray, Utah 84123

November 8, 1985

INVOICE NO. 6

Client: Utah Division of Oil, Gas & Mining
Contract No.: 85-5323
EarthFax Project No.: C-30

Labor:

Daniel N. Gainer	24.5 hr @ \$19.00	\$ 465.50
Randolph B. Gainer	25.0 hr @ \$30.00	750.00
Richard B. White	2.0 hr @ \$30.00	60.00

Expenses:

D.N. Gainer Exp. Rpt.	\$ 39.90	
R.B. Gainer Exp. Rpt.	148.25	
CMS (difference due to original incorrect billing from CMS)	74.00	
Recorder Rental (2 @ \$55.00)	110.00	<u>372.15</u>

Total \$1647.65

C-30

Invoice Difference



CHEMICAL & MINERALOGICAL SERVICES • 445 WEST 2700 SOUTH • SALT LAKE CITY, UTAH 84115 • (801) 485-0711

STATEMENT FOR:

EARTHFAX ENGINEERING INC.	Invoice # 17632
6542 SOUTH 670 WEST	Date 09/18/85
MURRAY, UTAH 84123	Customer #

GEOLOGIST: R. GAINER

Qty.	Type	Explanation	Unit cost	Amount
2	Water	Settleable Solids analyses	\$ 7.00	\$ 14.00
2	Water	Suspended Solids analyses	7.00	14.00
2	Water	Tot. Dis. Solids analyses	7.00	14.00
2	Water	Total Hardness analyses	7.00	14.00
2	Water	Sulfide analyses	12.00	24.00
2	Water	Mercury analyses	24.00	48.00
2	Water	HCO3, CO3 analyses(6.00/ea)	12.00	24.00
2	Water	Ca, Cr analyses(6.00/ea)	12.00	24.00
2	Water	Cu, Fe analyses(6.00/ea)	12.00	24.00
2	Water	K, Mg analyses(6.00/ea)	12.00	24.00
2	Water	Mn, Na analyses(6.00/ea)	12.00	24.00
2	Water	Ni, Zn analyses(6.00/ea)	12.00	24.00
2	Water	Al, B, Ba analyses(7.00/ea)	21.00	42.00
2	Water	Cd, Cl analyses(7.00/ea)	14.00	28.00
2	Water	Mo, SO4 analyses(7.00/ea)	14.00	28.00
2	Water	Se As analyses(9.00/ea)	18.00	36.00
2	Water	Pb analyses	9.00	18.00
2	Water	F, NH3 analyses(10.00/ea)	20.00	40.00
2	Water	NO3, NO2 analyses(10.00/ea)	20.00	40.00
2	Water	PO4 analyses	10.00	20.00
2	Water	Oil & Grease analyses	15.00	30.00

Subtotal \$ 554.00

Total due \$ 554.00

Previously Billed → 480.00
Due within 30 days

Net → 74.00

"Your Consulting Chemist"