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Cyprus Plateau Mining Corporation
P.O. Drawer PMC
Price, Utah 84501
(801) 637-2875

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This is page #1 of 7 pages.

Date: 8/26/94 Time: 1:15 [ ] a.m. [X] p.m.

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August 26, 1994

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

Dear Mr. Johnson,

RE: NOV N-94-39-3-1 - ADDITIONAL INFORMATION

Based on your phone call on Monday, August 22, we looked at how to document the storm runoff from the storm that created the damage. Since the violation abatement time was the 22nd, we had already cleaned up the damage, in doing so, we could not measure the high water mark at the sites. We contacted Bill Hendrickson at EarthFax Engineering to assist in calculating theoretical peak flows for storm events in the area.

The portion of the operation to which the NOV applies have drainage areas as follows:

a) A silt fence is placed diagonal to the slope where we climbed the road cut bank to access the short existing tunnel (as shown on the attached Site Map 1). There was a small amount of runoff that backed up against this silt fence and ran around the west end. this runoff was caught in another silt fence structure placed in the roadside ditch immediately below the diagonal silt fence for this very purpose. The road side ditch silt fence had an end run of very minor proportions, no erosion or damage resulted from this site. The drainage area for these silt fences are shown on Map 1.

b) The tunnel or "portal" as stated in the NOV is located at the east end of an existing tunnel through solid rock. As can be seen on Map 1, the drainage area for this silt fence goes up the hill for a considerable distance. The silt fence is placed to control runoff from leaving the tunnel mouth where we uncovered the tunnel for exploration purposes.

c) As shown on Site Map 2, the silt fence for this area is placed outside of an exciting tunnel through solid rock. The silt fence is in an area where runoff collected during the storm, the silt fence received a large flow during the storm, a large amount of silt and rock came down the hill from above the site.

The August 9 rainfall amount has been verified at the Carbon Power Plant operated by UP&L. The rain gage at the power plant contained 1.2 inches of rain, and the duration of 15 minutes was verified by UP&L personnel.

During the storm of August 9, all three areas received runoff from the areas above the silt fences. At areas b and c, the drainage areas contributing to the silt fences are quite large; at area b approximately 4 feet of debris, rocks and silt came down the drainage and deposited behind the silt fence. The water, rocks, debris and silt inundated the silt fence and flowed over the berm at the south side of the depression created by the silt fence and the existing topography.

At area a, the drainage area is not as large as the other two areas, however, runoff hit the silt fence with such force, intensity, and volume that the fabric could not pass all of it, and it flowed around the end.

The attached calculations were made by Bill to compare the storm with theoretical events at the site. Calculations were made using the SCS Curve Number Methodology for a 10 year, 6 hour duration event since areas a, b and c are all in diversions. A drainage area above the Castle Gate Mine refuse pile was used as a model since we have good data on the area; this area would be representative of the areas in question (a, b & c). As you can see from the calculation, the peak flow for the 10 year, 6 hour event is 7.44 cfs. The actual storm rainfall amount and duration were also used to calculate a peak flow for the same area above the refuse pile to compare with the theoretical 10 year, 6 hour event. As can be seen in the calculations, the peak flow is 33.57 cfs, which is 451% of the 10 year event.

For the 10 year, 6 hour event calculation, a rainfall amount of 1.4 inches was picked from "Precipitation-Frequency Atlas of the Western United States", Volume VI-Utah, 1973. A curve number of 75 was used which may or may not be representative of areas a, b and c. Since the calculations were made using the same acreage, the peak flows would be representative of the difference between areas a, b, and c and a 10 year, 6 hour event for the same areas. The actual runoff from areas a, b and c could be calculated if we had high water marks, but our violation abatement work wiped out the marks.

Based on these facts and calculations, we are asking that the violation be rescinded.

Respectfully,

Ben Grimes
Sr. Environmental Engineer

Attachments
File: ENV 2.5.2.5
Chron: BG940815

EARTHFAX ENGINEERING, INC.
HYDROGRAPH GENERATION PROGRAM OUTPUT
BASED ON SCS CURVE NUMBER METHODOLOGY

INPUT FOR: CGWS-U3B RECENT STORM

STORM :		WATERSHED :	
Dist.=SCS Type 'b' - 6 Hr		Area =	172.90 acres
Depth =	1.20 inches	CN =	75.00
Duration =	0.25 hrs	Time conc.=	0.386 hrs

OUTPUT SUMMARY

Runoff depth	0.07356	inches	
Initial abstr	0.66667	inches	
Peak flow =	33.57	cfs	(0.19258 iph)
at time	0.463	hrs	

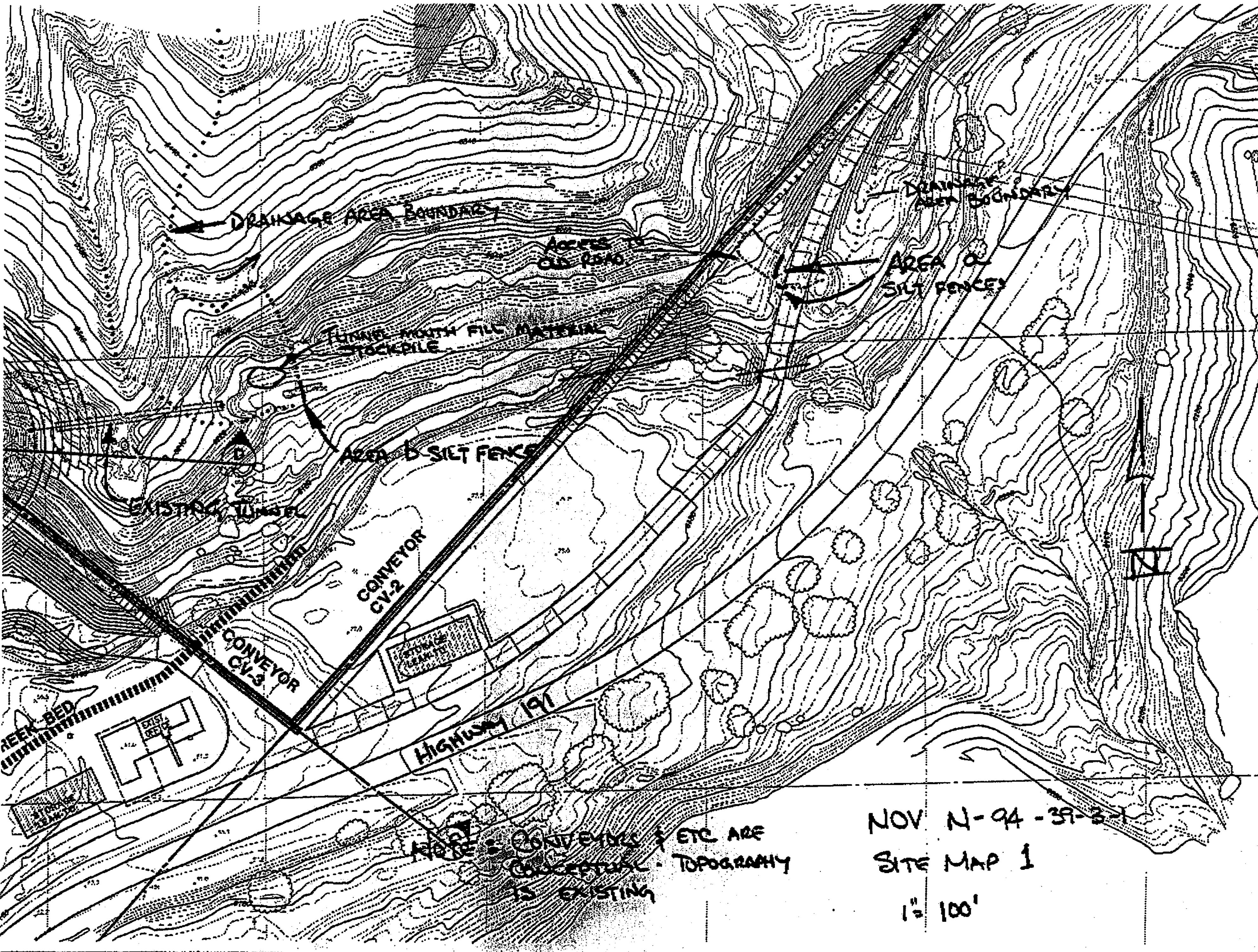
EARTHFAX ENGINEERING, INC.
HYDROGRAPH GENERATION PROGRAM OUTPUT
BASED ON SCS CURVE NUMBER METHODOLOGY

INPUT FOR: CGW8-U3B 10 YEAR STORM P=1.4"

STORM :		WATERSHED :		
Dist.=SCS Type 'b' - 6 Hr		Area =	172.90	acres
Depth = 1.40	inches	CN =	75.00	
Duration = 6.00	hrs	Time conc.=	0.386	hrs

OUTPUT SUMMARY

Runoff depth	0.13224	inches	
Initial abstr	0.66667	inches	
Peak flow =	7.44	cfs	(0.04267 iph)
at time	3.603	hrs	


DRAINAGE AREA BOUNDARY
ACCESS TO OLD ROAD
DRAINAGE AREA BOUNDARY
AREA a SILT FENCES
TUNNEL MOUTH FILL MATERIAL STOCKPILE
AREA b SILT FENCE
EXISTING TUNNEL
CONVEYOR CV-2
CONVEYOR CV-3
HIGHWAY 191
CREEK BED
NOTE: CONVEYORS & ETC ARE CONCEPTUAL - TOPOGRAPHY IS EXISTING
NOV N-94-39-3-1
SITE MAP 1
1" = 100'