C0070016, Incoming ✓

#5062

Chris D. Hansen
Dir. Of Regulatory Compliance
225 North 5th Street, Suite 900
Grand Junction, CO 81501
(970) 261-1425
Fax (970) 263-5161

December 28, 2015

Mr. Daron R. Haddock, Coal Environmental Manager
Division of Oil, Gas, and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801

RE: As-Builts of the Repaired Reclamation Channel SD-6, Gordon Creek 2, 7, and 8 Mines, Permit # C/007/0016

Dear Mr. Haddock:

Please find enclosed with this letter completed copies of C1 and C2 forms and four clean copies of an addendum to Appendix 7-1 that is titled "As-Builts of the Repaired Reclamation Channel SD-6". The ditch repairs were completed before November 15th, 2015 but snow that fell the night and days following repair precluded final surveying of the channel for several weeks. Once the snow cover was nearly gone, the repaired sections of the channel were surveyed and the attached report prepared by EarthFax Engineering, Inc. If you have any questions regarding the information provided in this letter, please give me a call at (970) 261-1425.

Sincerely,

Chris D. Hansen

Director of Regulatory Compliance
Bowie Resource Partners, LLC

RECEIVED
DEC 29 2015
DIV. OF OIL, GAS & MINING

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change ☒ New Permit ☐ Renewal ☐ Exploration ☐ Bond Release ☐ Transfer ☐

Permittee: Canyon Fuel Company, LLC
Mine: Gordon Creek 2, 7 & 8 Mines **Permit Number:** C/007/0016
Title: As-Builts of the Repaired Reclamation Channel SD-6
Description, Include reason for application and timing required to implement:
As-builts Drawings of Repair of lower section of reclamation channel SD-6.

Instructions: If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

☐ Yes ☒ No 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ ☐ increase ☐ decrease.
☐ Yes ☒ No 2. Is the application submitted as a result of a Division Order? DO# _____
☐ Yes ☒ No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
☐ Yes ☒ No 4. Does the application include operations in hydrologic basins other than as currently approved?
☐ Yes ☒ No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
☐ Yes ☒ No 6. Does the application require or include public notice publication?
☐ Yes ☒ No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
☐ Yes ☒ No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
☐ Yes ☒ No 9. Is the application submitted as a result of a Violation? NOV # _____
☐ Yes ☒ No 10. Is the application submitted as a result of other laws or regulations or policies?
Explain: _____
☐ Yes ☒ No 11. Does the application affect the surface landowner or change the post mining land use?
☐ Yes ☒ No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
☐ Yes ☒ No 13. Does the application require or include collection and reporting of any baseline information?
☐ Yes ☒ No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
☐ Yes ☒ No 15. Does the application require or include soil removal, storage or placement?
☐ Yes ☒ No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
☐ Yes ☒ No 17. Does the application require or include construction, modification, or removal of surface facilities?
☒ Yes ☐ No 18. Does the application require or include water monitoring, sediment or drainage control measures?
☒ Yes ☐ No 19. Does the application require or include certified designs, maps or calculation?
☐ Yes ☒ No 20. Does the application require or include subsidence control or monitoring?
☐ Yes ☒ No 21. Have reclamation costs for bonding been provided?
☐ Yes ☒ No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
☐ Yes ☒ No 23. Does the application affect permits issued by other agencies or permits issued to other entities?

Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you. (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Chris D. Hansen
Print Name

Chris D. Hansen Project Mgr. 12-28-15
Sign Name, Position, Date

Subscribed and sworn to before me this 28 day of December, 20 15

Melissa S Willden
Notary Public

My commission Expires: 5-19, 20 19 }
Attest: State of Utah } ss:
County of Carbon

MELISSA S WILLDEN
Notary Public - State of Utah
My Commission Expires
March 19, 2019
Commission #682454

For Office Use Only:	Assigned Tracking Number:	Received by Oil, Gas & Mining
		RECEIVED DEC 29 2015 DIV. OF OIL, GAS & MINING

Form DOGM- C1 (Revised March 12, 2002)

APPLICATION FOR COAL PERMIT PROCESSING
Detailed Schedule Of Changes to the Mining And Reclamation Plan

Permittee: Canyon Fuel Company, LLC
Mine: Gordon Creek 2, 7 & 8 Mines **Permit Number:** C/007/0016
Title: As-Builts of the Repaired Reclamation Channel SD-6

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED
☒ Add	☐ Replace	☐ Remove	Add Cover Page and As-Built Report to back of Addendum to Appendix 7-1
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
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Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.	Received by Oil, Gas & Mining
	RECEIVED DEC 29 2015 DIV. OF OIL, GAS & MINING

ADDENDUM TO APENDIX 7-1

AS-BUILT REPORT FOR THE

LOWER SECTION OF RECLAMATION CHANNEL SD-6

(To be placed at the back of the addendum)

EarthFax Engineering Group, LLC
7324 South Union Park Avenue, Suite 100, Midvale, Utah 84047 • 801.561.1555 • FAX 801.561.1861

EarthFax

December 21, 2015

Chris Hansen
Bowie Resource Partners, LLC
225 N 5th Street, Suite 900
Grand Junction, CO 81501

Subject: Gordon Creek Channel SD-6 As-Built Information

Dear Chris:

Attached please find the results of our survey of the re-constructed reclamation channel SD-6 at the Gordon Creek 2,7,8 Mine. Survey data were collected using a Pentax AP-124 level, with measuring tapes stretched down the profile and across the sections of the channel. A bench mark was established by driving a nail in the base of an aspens tree on the east side of the channel approximately 150 feet downstream from the head of the channel.

Survey data collected in the field are provided in Attachment A. This attachment also contains printouts of the channel profile and cross sections collected from points 50, 100, and 150 downstream from the head of the channel. The channel was designed with a trapezoidal shape, having a 5-foot bottom width with 2H:1V side slopes and a minimum depth of 1.5 feet. At this design, the channel would have a cross sectional area of 12.0 ft^2. The field survey indicates that the channel has cross sectional areas of 16.1 ft^2 at station 0+50, 32.2 ft^2 at station 1+00, and 45.4 ft^2 at station 1+50 (with station numbering beginning at the head of the reclaimed channel). Surveyed bank slopes range from 1.9H:1V to 7.5H:1V. Thus, the surveyed cross sections generally meet or exceed the design requirements.

The adequacy of the constructed channel to convey the peak flow resulting from the 100-year, 6-hour storm event was evaluated using FlowMaster and the design peak flow of 7.08 cfs. The results of this evaluation are provided in Attachment B and summarized in Table 1. The estimated flow depths and velocities are all within acceptable ranges for the cross sections and riprap used to armor the channel.

Channel SD-6 was originally designed to be armored with riprap having a median diameter of 9 inches. Following erosion of this lining in the steeper portion of the channel during a high-intensity thunderstorm in the summer of 2015, this riprap in the lower section was designed to have a median diameter of 18 inches. My visual observations during the December 2015 survey indicated that the installed riprap adequately meets the design.

I have appreciated the opportunity to be of assistance. Please contact me if you have any questions.

Sincerely,

Richard B. White, P.E.
President

Attachments

REGISTERED PROFESSIONAL ENGINEER
No. 168246
RICHARD B. WHITE
21 Dec 2015
STATE OF UTAH

TABLE 1

Flow Depth and Velocity from the
100-year, 6-hour Precipitation Event[a]

Cross Section Station	Flow Depth (ft)	Velocity (ft/s)
0+50	0.19	4.89
1+00	0.26	5.66
1+50	00.24	5.73

[a]Based on a design flow of 7.07 cfs

ATTACHMENT A

Survey Data

SD-6 as-constructed channel

Survey Date: 3-Dec-15
Project: UC-1489-02

Benchmark elevation (ft): 100
Rod reading at Benchmark (ft): 12.73
New Bmark at Station 170 (ft): 2.22

Channel Profile:

Station (ft)	Channel Bottom (ft)		Channel Slope (ft/ft)
	Rod Reading	Elevation	
0	-0.72	113.45	
10	0.64	112.09	0.136
20	1.12	111.61	0.048
30	1.86	110.87	0.074
40	2.69	110.04	0.083
50	2.94	109.79	0.025
60	3.84	108.89	0.090
70	4.51	108.22	0.067
80	5.87	106.86	0.136
90	6.91	105.82	0.104
100	8.69	104.04	0.178
110	10.10	102.63	0.141
120	11.35	101.38	0.125
130	13.53	99.20	0.218
140	16.15	96.58	0.262
150	19.03	93.70	0.288
160	22.28	90.45	0.325
170	15.68	86.54	0.391
180	19.10	83.12	0.342
190	22.49	79.73	0.339

Channel cross sections
(Station 0+00 at right-hand side, looking upstream)

Station 0+50:

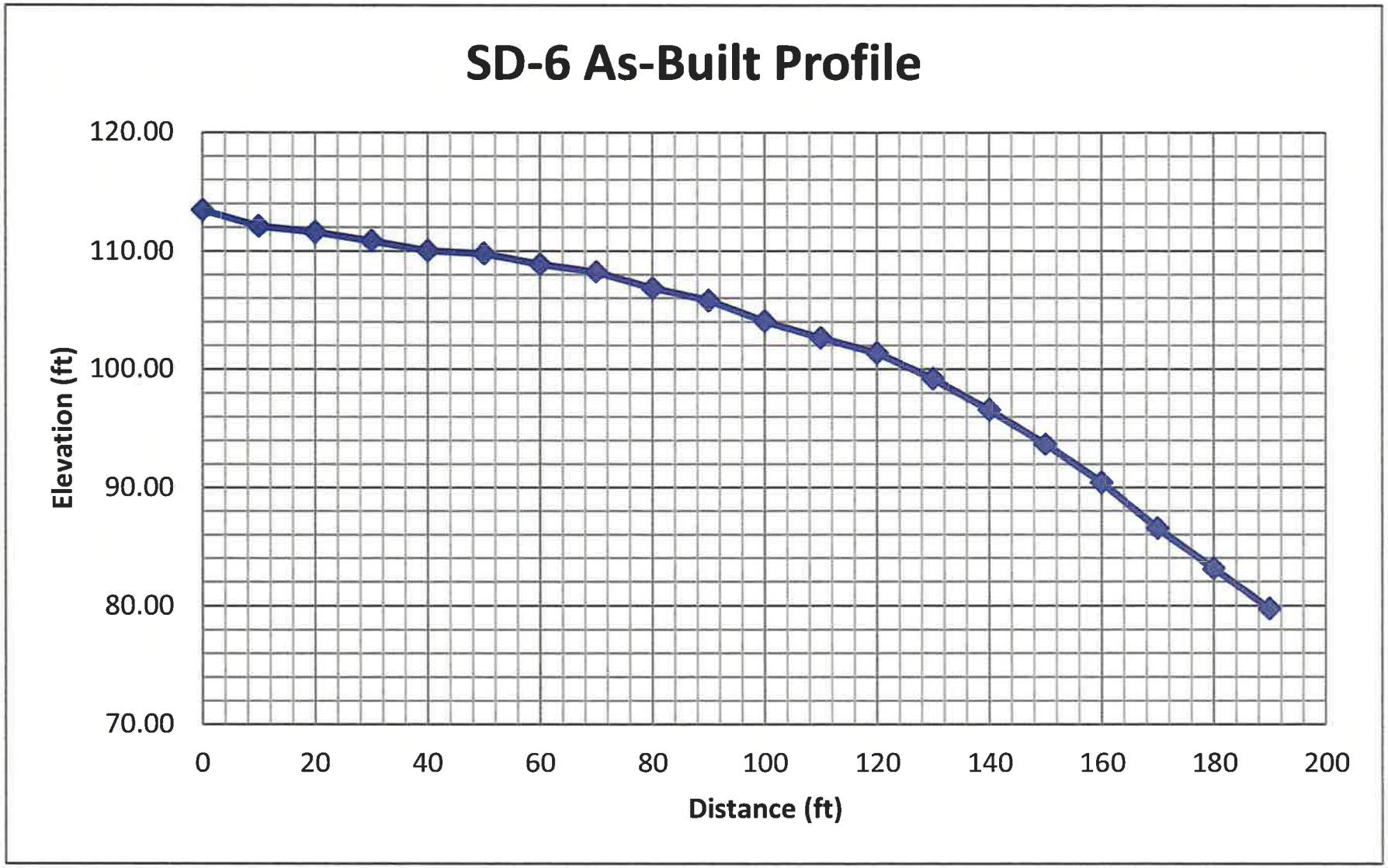
Distance (ft)	Channel Bottom (ft)		Bank Slope (H:V)
	Rod Reading	Elevation	
0	1.93	110.80	
6.5	2.80	109.93	7.47
14.7	2.91	109.82	
19.7	2.60	110.13	
27.5	1.49	111.24	7.03

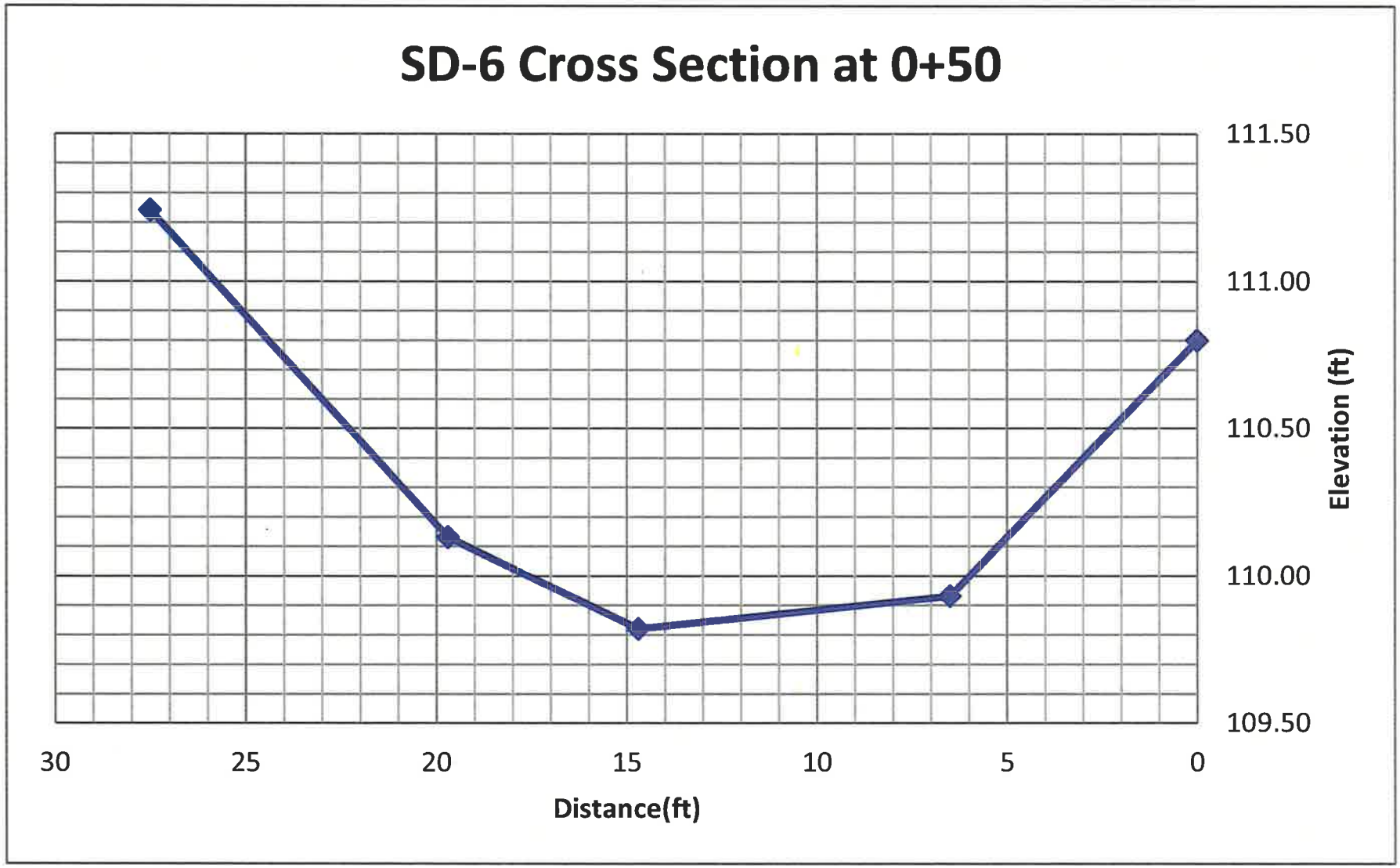
Station 1+00:

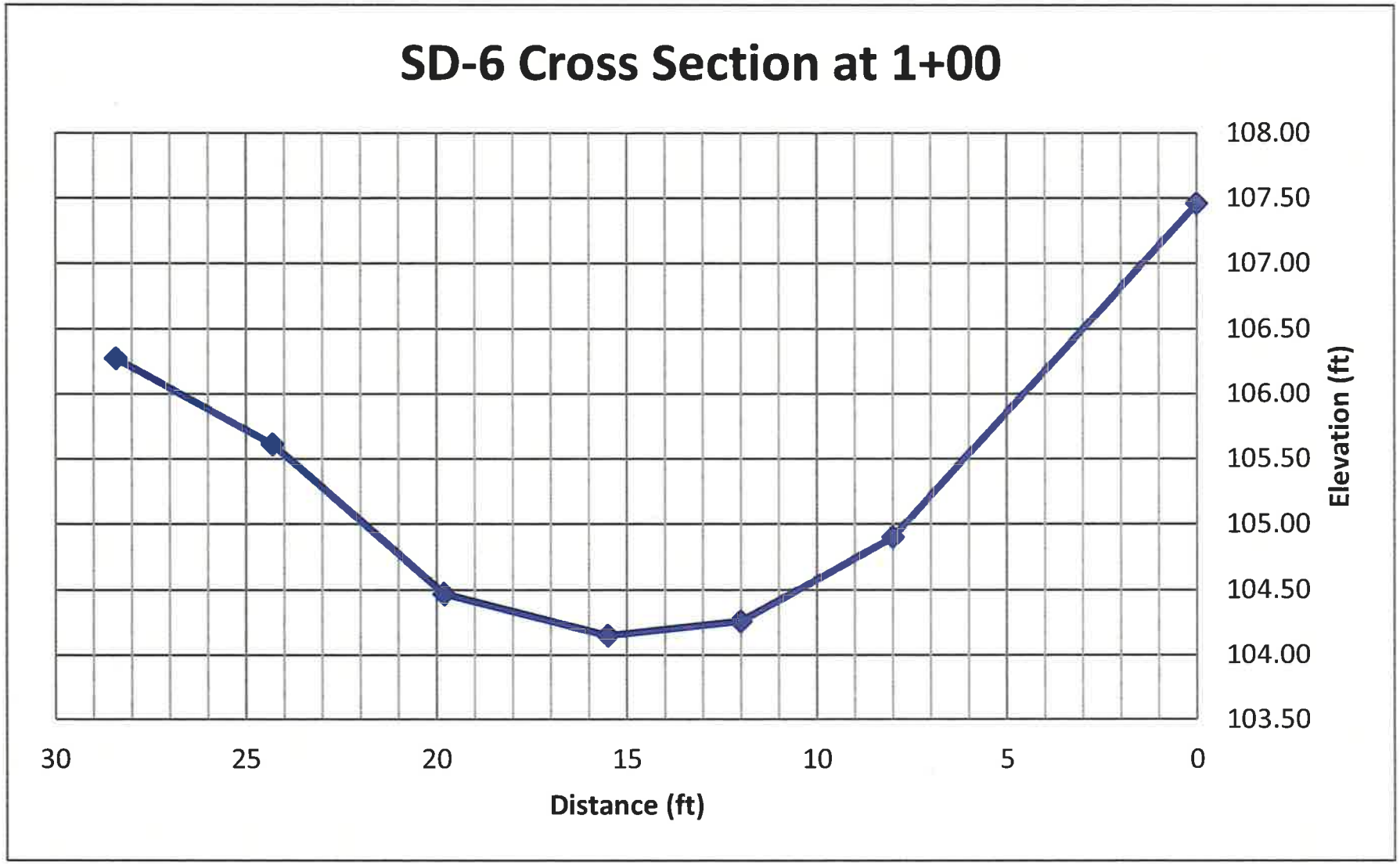
Distance (ft)	Channel Bottom (ft)		Bank Slope (H:V)
	Rod Reading	Elevation	
0	5.27	107.46	
8	7.83	104.90	3.13
12	8.47	104.26	
15.5	8.58	104.15	
19.8	8.26	104.47	
24.3	7.12	105.61	
28.4	6.46	106.27	6.21

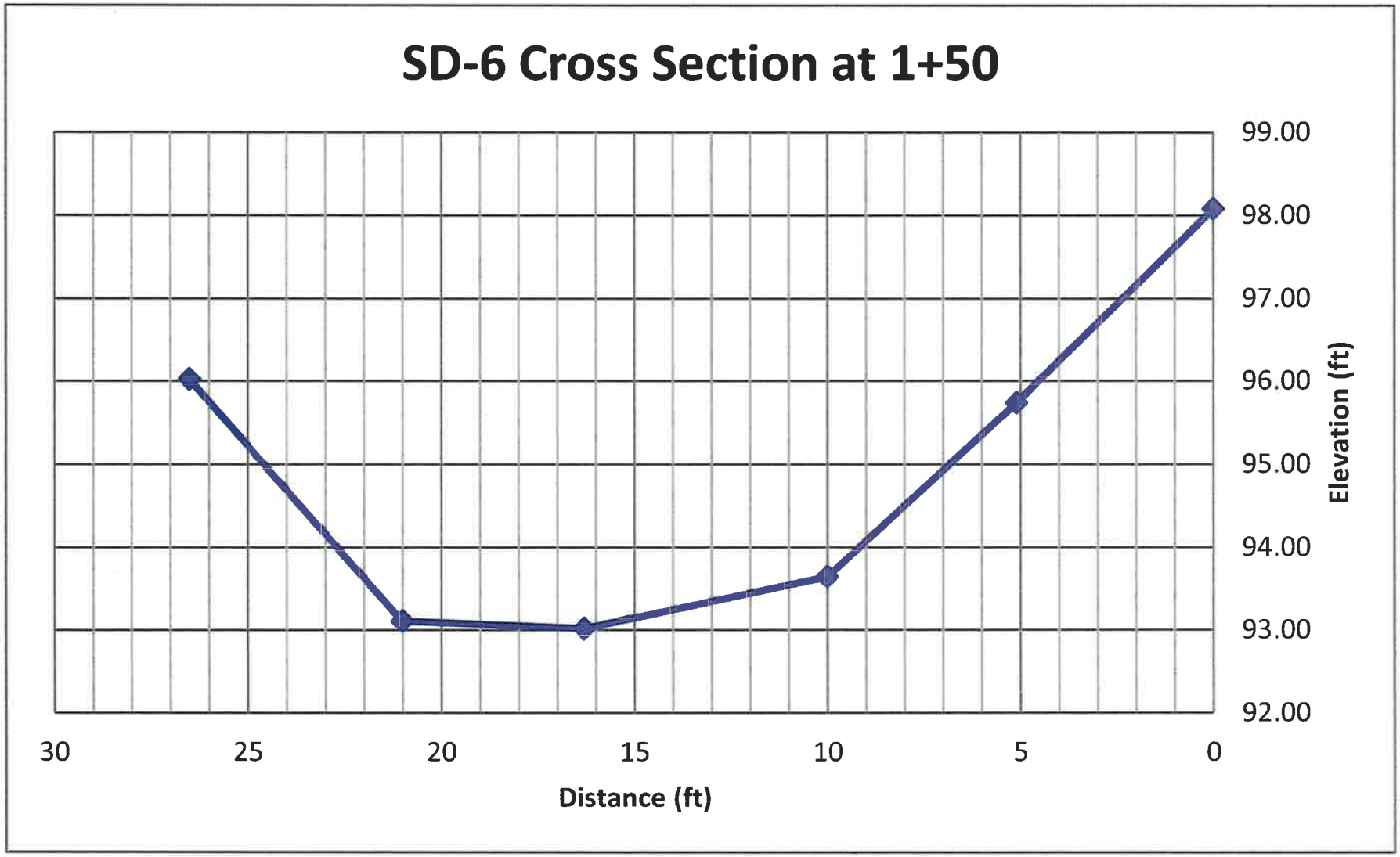
Station 1+50:

Distance (ft)	Channel Bottom (ft)		Bank Slope (H:V)
	Rod Reading	Elevation	
0	14.65	98.08	
5.1	16.99	95.74	2.18
10	19.08	93.65	
16.3	19.71	93.02	
21	19.62	93.11	
26.5	16.71	96.02	1.89


SD-6 As-Built Profile
120.00
110.00
100.00
90.00
80.00
70.00
Elevation (ft)
0
20
40
60
80
100
120
140
160
180
200
Distance (ft)


SD-6 Cross Section at 0+50
111.50
111.00
110.50
110.00
109.50
Elevation (ft)
30
25
20
15
10
5
0
Distance(ft)


SD-6 Cross Section at 1+00
108.00
107.50
107.00
106.50
106.00
105.50
105.00
104.50
104.00
103.50
Elevation (ft)
30
25
20
15
10
5
0
Distance (ft)


SD-6 Cross Section at 1+50
99.00
98.00
97.00
96.00
95.00
94.00
93.00
92.00
Elevation (ft)
30
25
20
15
10
5
0
Distance (ft)

ATTACHMENT B

Channel Adequacy Evaluation

SD-6 Cross Secton at Station 0+50
Worksheet for Irregular Channel

Project Description	
Worksheet	SD-6 Cross Sec
Flow Element	Irregular Chann
Method	Manning's Form
Solve For	Channel Depth

Input Data		
Slope	288000	ft/ft
Discharge	7.08	cfs

Options	
Current Roughness Method	ved Lotter's Method
Open Channel Weighting	ved Lotter's Method
Closed Channel Weighting	Horton's Method

Results		
Mannings Coefficient	0.040	
Water Surface Elev	110.01	ft
Elevation Range	9.82 to 111.24	
Flow Area	1.4	ft²
Wetted Perimeter	11.93	ft
Top Width	11.91	ft
Actual Depth	0.19	ft
Critical Elevation	110.12	ft
Critical Slope	0.040214	ft/ft
Velocity	4.89	ft/s
Velocity Head	0.37	ft
Specific Energy	110.38	ft
Froude Number	2.47	
Flow Type	Supercritical	

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00	0+28	0.040

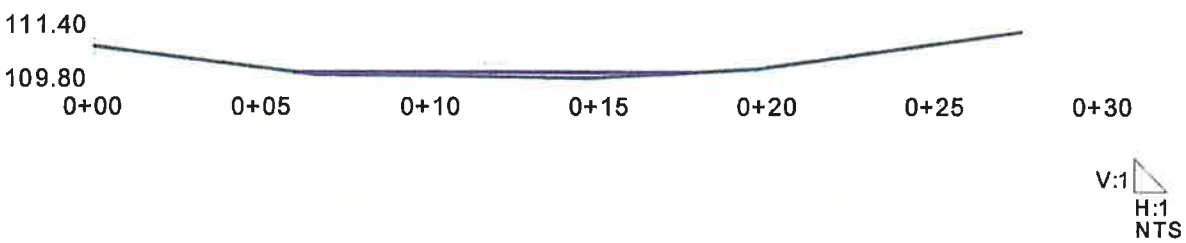
Natural Channel Points

Station (ft)	Elevation (ft)
0+00	110.80
0+07	109.93
0+15	109.82
0+20	110.13
0+28	111.24

SD-6 Cross Section at Station 0+50
Cross Section for Irregular Channel

Project Description	
Worksheet	SD-6 Cross Sec
Flow Element	Irregular Chann
Method	Manning's Form
Solve For	Channel Depth

Section Data		
Mannings Coefficier	0.040	
Slope	0.288000	ft/ft
Water Surface Elev	110.01	ft
Elevation Range	3.82 to 111.24	
Discharge	7.08	cfs



SD-6 Cross Secton at Station 1+00
Worksheet for Irregular Channel

Project Description	
Worksheet	SD-6 Cross Sec
Flow Element	Irregular Chann
Method	Manning's Form
Solve For	Channel Depth

Input Data		
Slope	288000	ft/ft
Discharge	7.08	cfs

Options	
Current Roughness Method	ved Lotter's Method
Open Channel Weighting	ved Lotter's Method
Closed Channel Weighting	Horton's Method

Results		
Mannings Coefficient	0.041	
Water Surface Elev	104.41	ft
Elevation Range	4.15 to 107.46	
Flow Area	1.3	ft²
Wetted Perimeter	7.98	ft
Top Width	7.95	ft
Actual Depth	0.26	ft
Critical Elevation	104.55	ft
Critical Slope	0.039053	ft/ft
Velocity	5.66	ft/s
Velocity Head	0.50	ft
Specific Energy	104.91	ft
Froude Number	2.51	
Flow Type	Supercritical	

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00	0+28	0.041

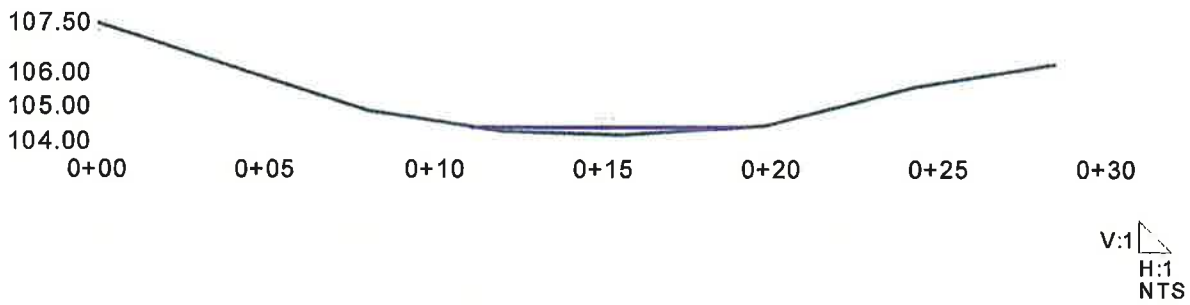
Natural Channel Points

Station (ft)	Elevation (ft)
0+00	107.46
0+08	104.90
0+12	104.26
0+16	104.15
0+20	104.47
0+24	105.61
0+28	106.27

SD-6 Cross Section at Station 1+00
Cross Section for Irregular Channel

Project Description	
Worksheet	SD-6 Cross Sec
Flow Element	Irregular Chann
Method	Manning's Form
Solve For	Channel Depth

Section Data		
Mannings Coefficie	0.041	
Slope	0.288000	ft/ft
Water Surface Elev	104.41	ft
Elevation Range	4.15 to 107.46	
Discharge	7.08	cfs



SD-6 Cross Secton at Station 1+50
Worksheet for Irregular Channel

Project Description	
Worksheet	SD-6 Cross Sec
Flow Element	Irregular Chann
Method	Manning's Form
Solve For	Channel Depth

Input Data		
Slope	288000	ft/ft
Discharg	7.08	cfs

Options	
Current Roughness Meth	ved Lotter's Method
Open Channel Weighting	ved Lotter's Method
Closed Channel Weightin	Horton's Method

Results		
Mannings Coefficie	0.042	
Water Surface Elev	93.26	ft
Elevation Range	.02 to 98.08	
Flow Area	1.2	ft²
Wetted Perimeter	7.45	ft
Top Width	7.40	ft
Actual Depth	0.24	ft
Critical Elevation	93.40	ft
Critical Slope	0.040524	ft/ft
Velocity	5.73	ft/s
Velocity Head	0.51	ft
Specific Energy	93.77	ft
Froude Number	2.47	
Flow Type	Supercritical	

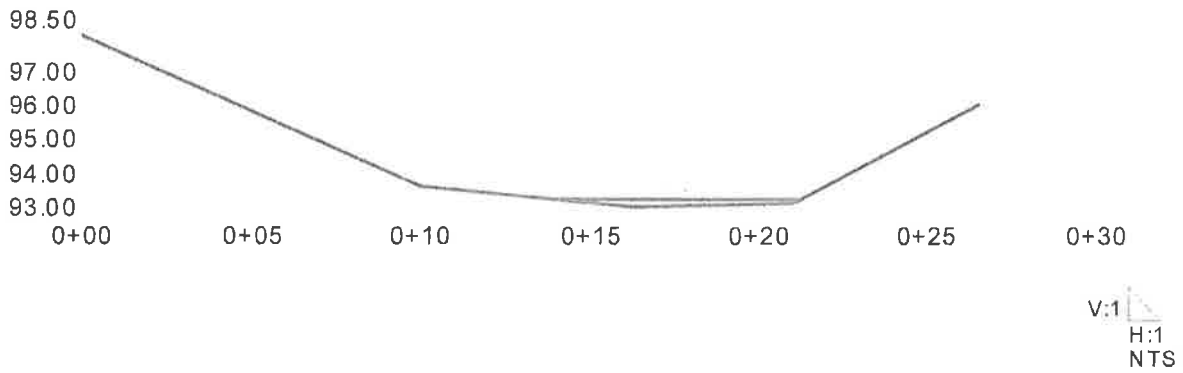
Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00	0+27	0.042

Natural Channel Points

Station (ft)	Elevation (ft)
0+00	98.08
0+05	95.74
0+10	93.65
0+16	93.02
0+21	93.11
0+27	96.02

SD-6 Cross Section at Station 1+50
Cross Section for Irregular Channel

Project Description	
Worksheet	SD-6 Cross Sec
Flow Element	Irregular Chann
Method	Manning's Form
Solve For	Channel Depth

Section Data		
Mannings Coefficier	0.042	
Slope	0.288000	ft/ft
Water Surface Elev	93.26	ft
Elevation Range	1.02 to 98.08	
Discharge	7.08	cfs