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Refer to Record No 0037 Date 07152009

In C 00700052009 Quinn

For additional information

0037

C/007/005 Incoming



Canyon Fuel Company, LLC. Skyline Mine

A Subsidiary of Arch Western Bituminous Group, LLC.

#3356  
K

Gregg Galecki, Environmental Eng.  
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Helper, UT 84526  
(435) 448-2636 - Office  
(435) 448-2632 - Fax

**COPY**

July 15, 2009

Mr. James D. Smith  
Permit Supervisor  
Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Salt Lake City, Utah 84114-5801

RE: Application to Reduce Water Monitoring requirements at Selected Water Monitoring Sites, Canyon Fuel Company, LLC, Skyline Mine, C/007/005

Dear Mr. Smith:

Please find enclosed with this letter Skyline Mine's application to reduce water monitoring commitments on various water monitoring sites within the permit area. This submittal includes completed C1 and C2 forms, seven redline/strikethrough copies of modified text, and graphs of the relevant monitoring parameter at each site requested for reduction to serve as a demonstration for the reduction. The following outlines the basis for each individual reduction.

**Well W99-28-1** – Well W99-28-1 was water level monitored beginning in 1999 for baseline information, then began quarterly monitoring in 2002 in conjunction with major mine inflows encountered in 10-Left. Beginning in the 2<sup>nd</sup> Quarter 2008, and extending to the 2<sup>nd</sup> Quarter 2009 Mine personnel began having difficulty sending elevation meter (probe) to depth. In the last three (3) quarters the Mine has destroyed two (2) probes at this well, with the probe getting stuck in the well prior to encountered water in the well. Depth to water in this well is approximately 1250 feet from the surface. It appears that the casing has been breached at approximately the 920 foot depth. Attached Figure A arguably demonstrates the well has been breached from above and is in communication with water from a higher elevation. Surrounding wells W20-28-1 and W99-21-1 mirror each other in there elevations, while Well 99-28-1 illustrates a significant rise that corresponds to the problems Mine personnel have encountered with the well.

Skyline believes the integrity of Well 99-28-1 has been compromised with the casing being breached, allowing communication with water from a higher elevation. We also believe monitoring of the deep aquifer is adequately being monitored by surrounding Wells W20-28-1 and W99-21-1. With the exception of no longer monitoring well W99-28-1, no action needs to be taken.

**F-9 and F-10** – These two (2) stream sites are located on James Canyon Creek below JC-1. The initial monitoring purposes of these sites were two-fold; one to monitor monthly stream flows while undermining of the streams was taking place; the other to monitor activities of the JC-1 construction. Mining in the vicinity of the stream was completed a number of years ago and the mine has subsequently been flooded. Data for the flow monitoring of these sites are illustrated in Figure B. Figure B illustrates that both no notable impacts were observed through

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either mining or with the James Canyon wells, and that the flows from F-9 are proportion to F-10 providing limited additional information.

It is proposed that 1) F-9 be discontinued on the basis it provides only limited additional information as compared to F-10; and 2) that monitoring requirements at F-10 be scaled back to quarterly flow and field parameters, with water analysis being collected every five (5) years. The proposed scaled back water monitoring commitments are consistent with the current water monitoring program in the surrounding area.

**CS-4** – CS-4 was originally identified as a water monitoring location to monitor both flow impacts related to mining and have a monitoring site located above the Water Tank. Upstream of the Mine site water quality monitoring is adequately monitored by CS-11. Figure C illustrates quarterly water monitoring of both sites beginning in 1979 to today. The Total Dissolved Solids (TDS) data illustrates that although CS-4 has lower concentrations, the chemistry is similar. The higher concentrations noted at CS-11 are easily explained by CS-4 representing roughly 40 percent of the water reporting to CS-11.

It is proposed that F-4 be discontinued on the basis that 1) CS-11 adequately monitors the Upper Left Fork of Eccles Creek above the Mine site; 2) the mining in the vicinity on the drainage was conducted over a decade ago with no observable impacts; and 3) that the existing 30 years of quarterly monitoring adequately characterized the sub-basin of CS-4.

**NL sites (NL-13, NL-14)** – As outlined in Section 2.4.4 of the currently approved M&RP, NL sites are designed to monitor stream flow in perennial stream before, during, and after the stream has been undermined with longwall mining to identify whether any observable impacts or loss of water is noted in the stream as related to subsidence. Sites NL-12 through NL-14 were established to monitor any potential affects to the stream while undermining the 1-Left panel, which completed undermining of the creek in November 2006. As outlined in the monitoring program, sites NL-13 and NL-14 are due to be discontinued from monitoring having completed the required monitoring. Figures D-1 through D-3 illustrate the measured flows for years 2006 through 2008, respectively. Although flows were collected in June in 2007 and 2008, the data is not included to better scale the graphs, and better illustrate the true flows since June flows are highly influenced by snowmelt. Although there is inherent variability in the data from site to site and from year to year, the data consistently illustrates that the flow is increasing downstream, and there are no significant losses to stream flow.

It is proposed that monitoring sites NL-13 and NL-14 be discontinued from the monitoring program as outlined in Section 2.4.4.

### **NL sites – Overall Monitoring Modification -**

As estimated originally in Plate 2.3.6-2 of the M&RP, and supported with the Cumulative Subsidence information supplied in the Annual Report, portions of the creek have subsided approximately 4 feet. Field observations have not noted any cracking or other expressions of the subsidence. Very minor cracking has been noted along the top of the ridges, which could easily go unnoticed unless specifically looking for subsidence expressions. Based on the results of the data collected thus far, Skyline is proposing that the NL site spacing be reduced to sampling in the center of each panel as the panels intersect/undermine the creeks for the following reasons:

- Data collected through the first two (2) panels has not indicated any impacts.

- Due to the overlap of monitoring flows at sites before, during, and after mining, sufficient data is being collected upstream, over the panel, and below the panel being undermined.
- The monitoring program is designed to identify 'appreciable' changes in flow; one sample located in the center of each panel would adequately monitor any changes in flow. Sample spacing would change from approximately 425 feet to 850 feet.
- Flow measurements, particularly with a Marsh-McBirney flow meter, inherently have an accuracy +/- 5-10 percent based critically on precise measurements collected from sites with laminar flow, effects of transpiration, and other micro-dynamic affects of localized sections of a stream. Since the program is designed to identify 'appreciable' changes in flow, one flow measurement per panel - strategically located at the best site in the center of the panel - will adequately identify changes in flow with better accuracy.
- Due to minor changes in the mine plan which include a shifting of the panels to the north, and a wider longwall beginning in the 3-Left panel, many of the original NL site locations identified on Plate 2.3.6-2 are no longer positioned over the center of the panels and gate roads. It is proposed that the NL sites originally positioned over the gate roads be discontinued from sampling, with the center-of-panel monitoring locations be repositioned to the best stream monitoring location. The sample frequency of NL sites located in Box Canyon that run parallel to the 4-Left panel will also will also be increased accordingly. A revised Plate 2.3.6-2 has been submitted, showing the proposed monitoring sites.
- As outlined in Section 2.4.4, "As mining advances through the perennial sections of the drainage, and the monitoring indicates no affects to flow, the Permittee may modify the spacing of the monitoring points.

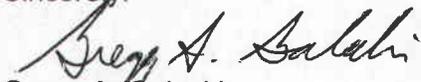
Based on the modifications outlined, the following changes in the M&RP are included in this application:

- Table 2.3.7-1 has been modified to eliminate sites CS-4, F-9, W99-28-1, and reduce monitoring at F-10 to quarterly Field parameters and baseline water analysis every five (5) years.
- Table 2.3.7-3 has been modified to eliminate sites CS-4, F-9, and W99-28-1.
- Plate 2.3.6-1 - Location of Hydrologic Monitoring Stations has been modified to remove sites CS-4, F-9, and W99-28-1.
- Plate 2.3.6-2 - North Lease Subsidence Hydrologic Monitoring Points has been modified to reflect the reduction of NL sites.
- Section 2.4.4, page 2-44 has been modified to reflect the change in NL site spacing.

Attached to this cover letter are completed C1 and C2 forms, five (5) copies of both redline/strikeout and clean text of the proposed modifications (Table 2.3.7-1), and , five (5) clean copies of Plate 2.3.6-1, Plate 2.3.6-2, and one (1) Compact Disc (CD) containing the complete submittal package. One copy of the submittal was delivered directly to the Price Field Office.

If you have any questions regarding this information, please give me a call at (435) 448-2636.

Sincerely:



Gregg A. Galecki  
Canyon Fuel Company, LLC.  
Environmental Engineer - Skyline Mines

Enclosures

APPLICATION FOR COAL PERMIT PROCESSING

**COPY**

Permit Change  New Permit  Renewal  Exploration  Bond Release  Transfer

Permittee: Canyon Fuel Company, LLC

Mine: Skyline Mine

Permit Number: C/007/005

Title: Reduced Water Monitoring

Description, Include reason for application and timing required to implement:

Reduced Water monitoring requirements at selected water monitoring sites.

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.

Wesley K Sorensen  
Print Name

Wesley K Sorensen  
Sign Name, Position, Date

Subscribed and sworn to before me this 15<sup>th</sup> day of July 2009

Kathleen Atwood  
Notary Public

My commission Expires: 11-12, 2011 }  
Attest: State of Utah } ss:  
County of Carbo



For Office Use Only:

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**Figure B**  
**F-9 and F-10 Flows**

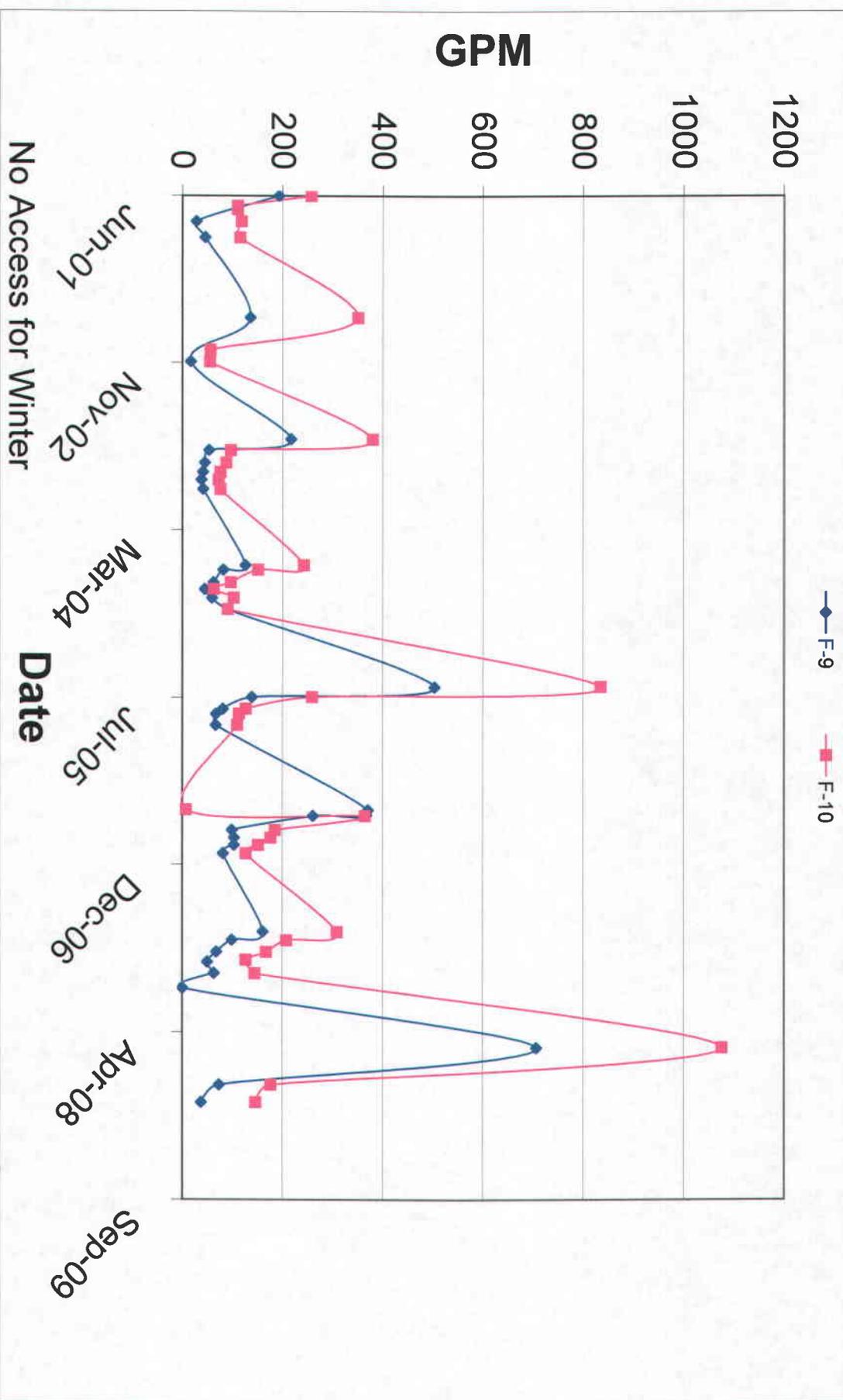


Figure C

### CS-4, CS-11 Comparison

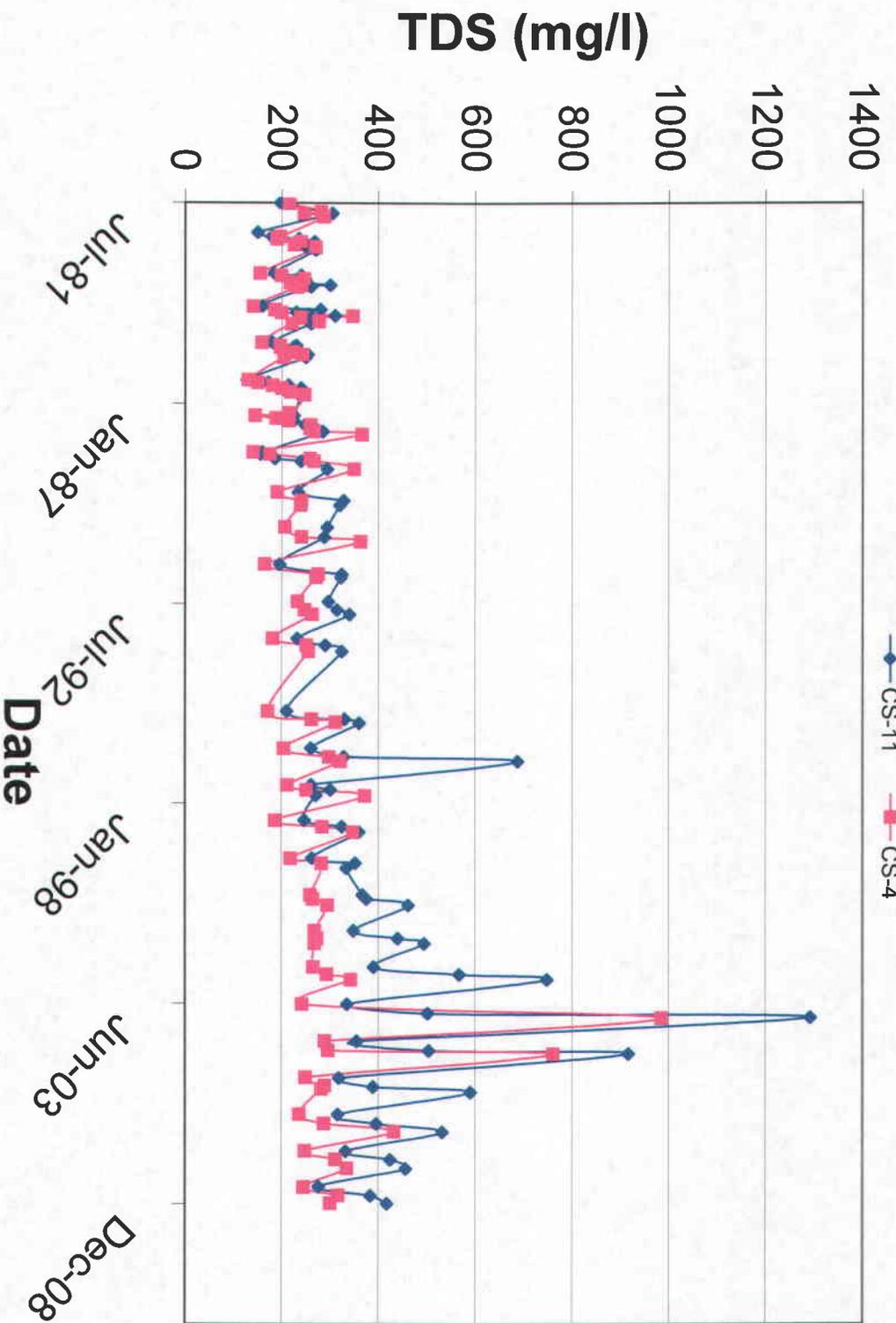


Figure D-1

### 2006 FLOWS

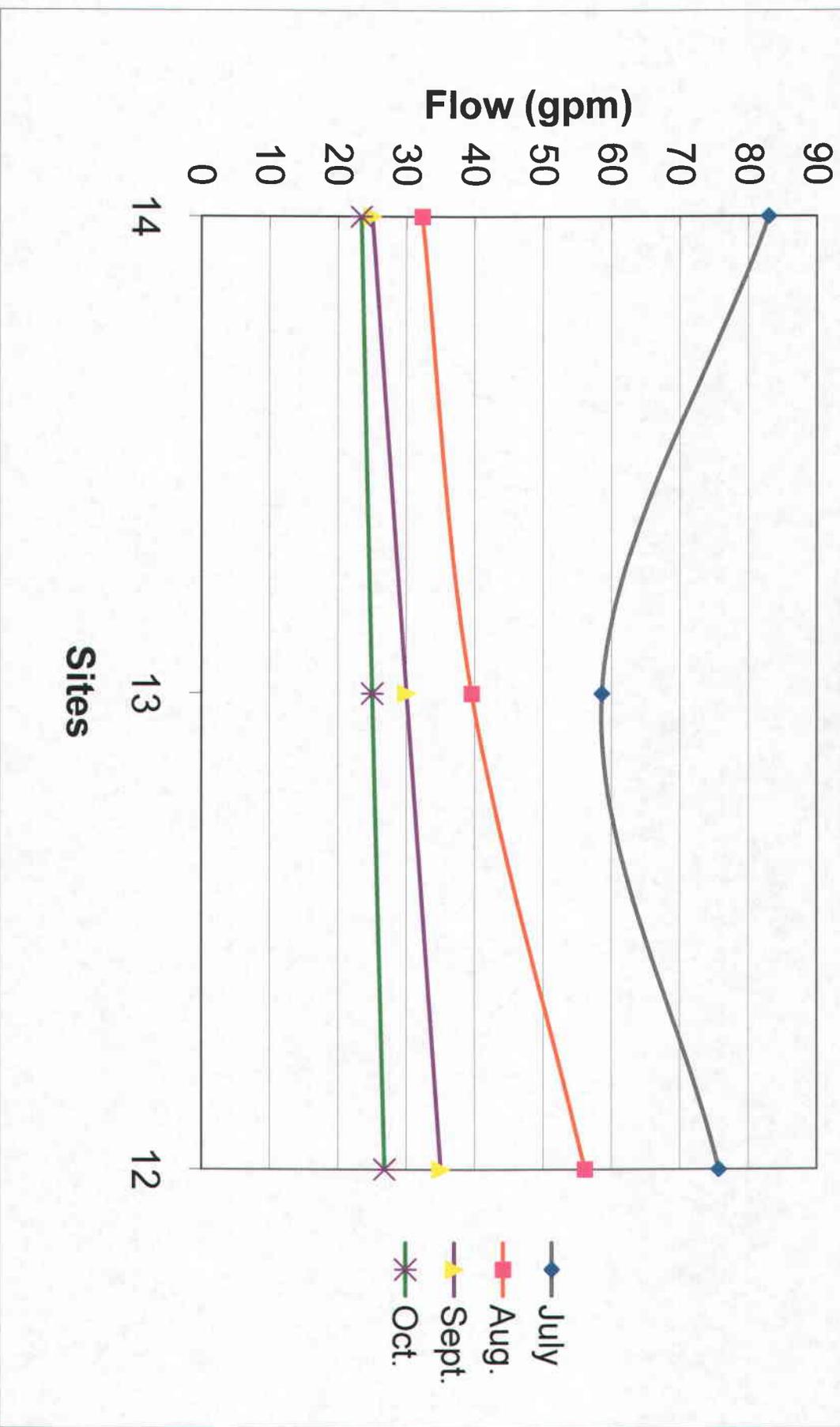


Figure D-2  
**2007 FLOWS**

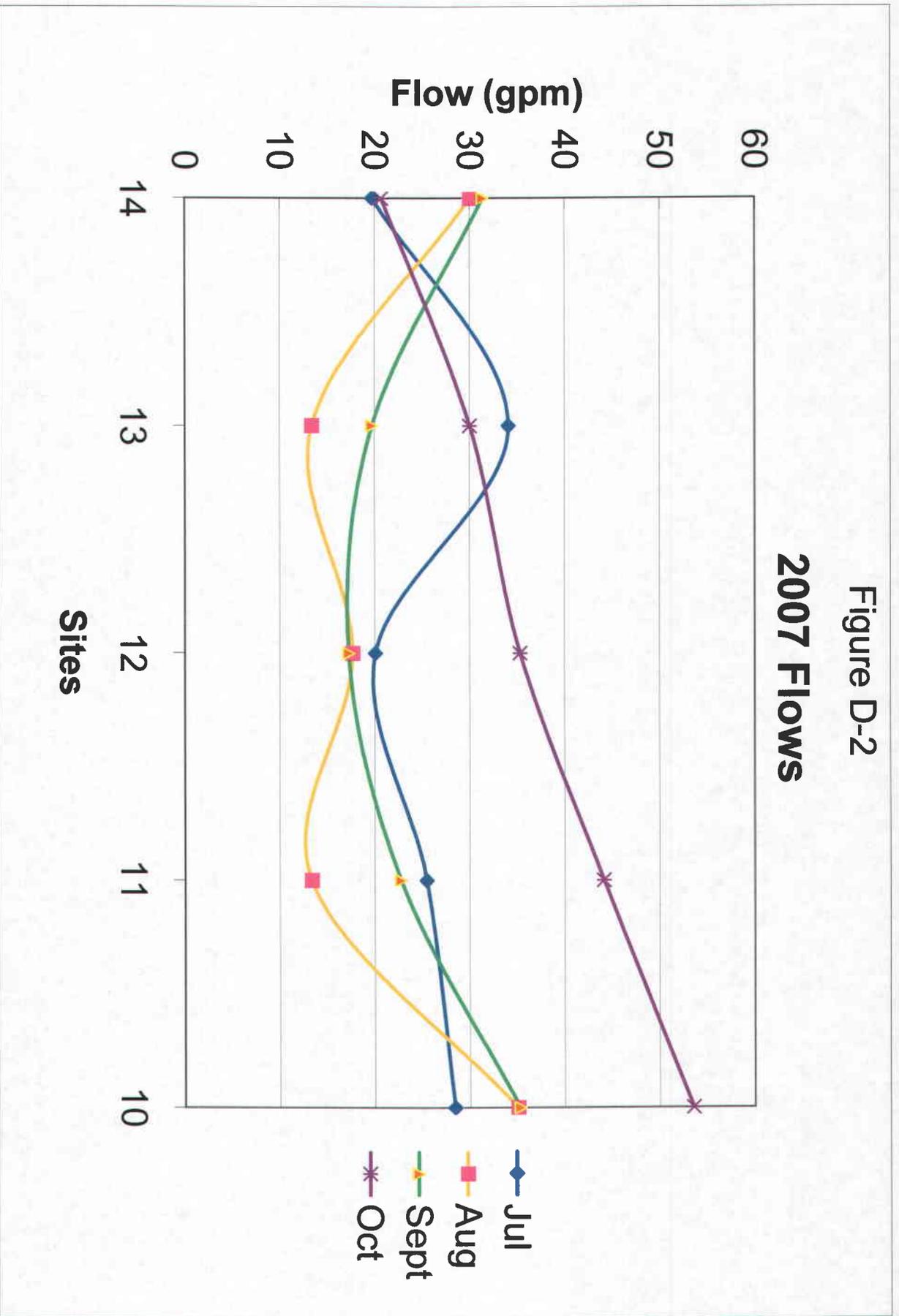


Figure D-3  
2008 FLOWS

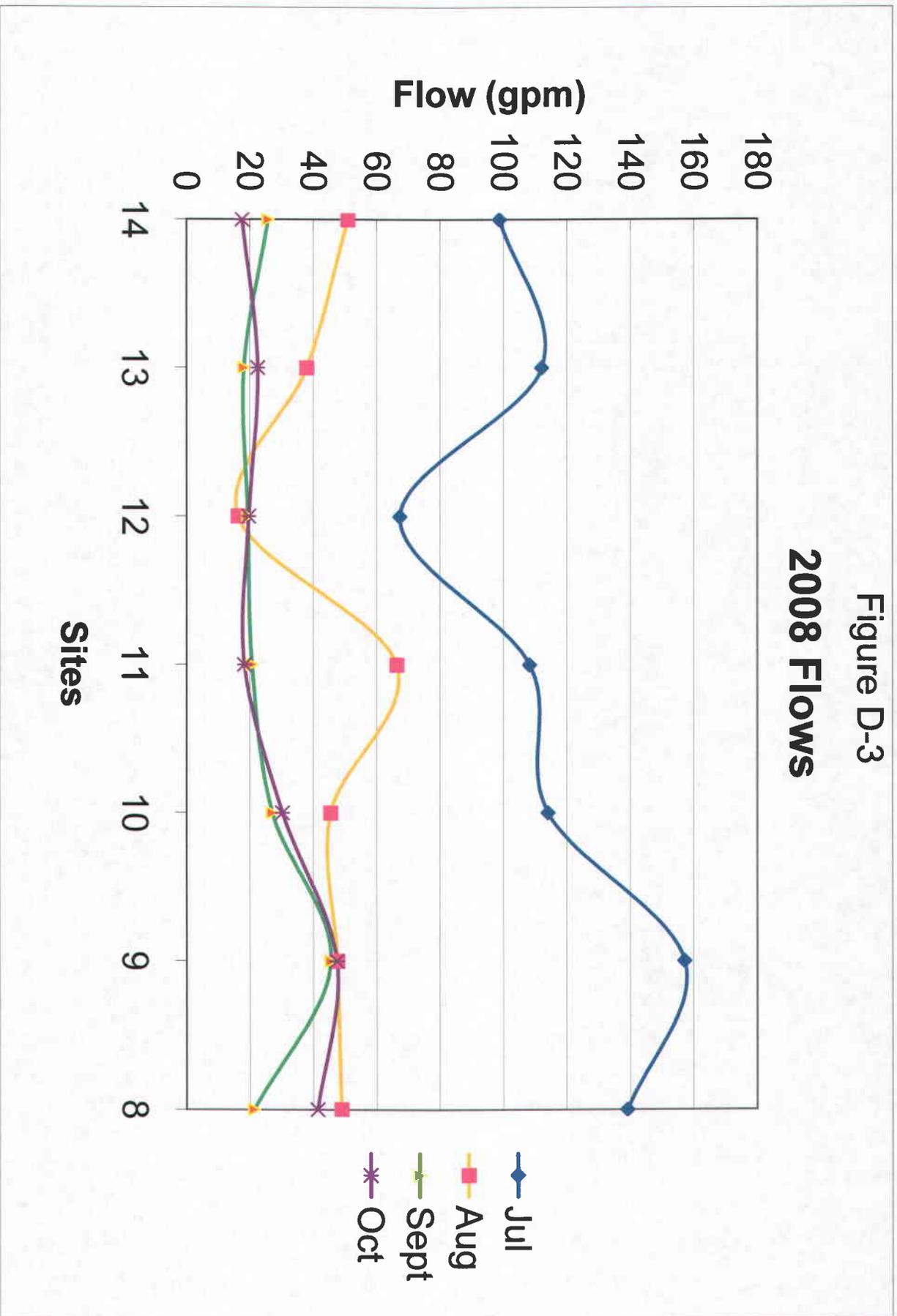


Table 2.3.7-1  
 Comprehensive Water Quality Analytical Schedule  
 (Surface and Ground Water Stations)

Sample Site	1st Quarter					2nd <sup>2</sup> / 3rd <sup>3</sup> / 4th Quarters													
	Lab Analysis <sup>a</sup>	Field parameters only <sup>a,1</sup>	Monthly Flow	Dissolved Oxygen	TDS, TSS, T-P	O & G	Lab Analysis <sup>a</sup>	Qtrly Field parameters* only	Quarterly Flow	Monthly Flow	Monthly Seasonal Flow	Quarterly Water Level Only	Dissolved Oxygen	TDS, TSS, T-P	O & G	Carbon 14	Tritium	Deuterium	Oxygen 18
<b>Streams</b>																			
CS-3							X							X					
CS-4 (DELETE)							X							X					
CS-6	X			X			X					X							
CS-7 (F-5)								X											
CS-8								X											
CS-9							X												
CS-10								X											
CS-11							X												
CS-12	X						X												
CS-13	X						X												
CS-14	X						X												
CS-16								X											
CS-17								X											
CS-18								X											
CS-19							X												
CS-20							X												
CS-21							X												
CS-22									X										
CS-23									X										
MD-1			X		X					X			X						
SRD-1			X							X									
F-9 (DELETE)								X			X								
F-10								X											
UP&L-10							X												
VC-6	X			X		X	X					X		X					
VC-9	X			X		X	X					X		X					
VC-10		X						X											
VC-11									X										
VC-12									X										
NL-1 through NL-42 (See Section 2.4.4)											X								

Table 2.3.7-1  
 Comprehensive Water Quality Analytical Schedule  
 (Surface and Ground Water Stations)  
 (continued)

Sample Site	1st Quarter					2nd <sup>2</sup> / 3rd <sup>3</sup> / 4th Quarters											
	Lab Analysis <sup>a</sup> Field parameters only <sup>a1</sup>	Monthly Flow	Dissolved Oxygen	TDS, TSS, T-P	O & G	Lab Analysis <sup>a2</sup> Qtrly Field parameters* only <sup>1</sup>	Quarterly Flow	Monthly Flow	Monthly Seasonal Flow	Quarterly Water Level Only	Dissolved Oxygen	TDS, TSS, T-P	O & G	Carbon 14	Tritium	Deuterium	Oxygen 18
<b>Streams (cont.)</b>																	
WRDS #1						X							X				
WRDS #2						X							X				
WRDS #3						X							X				
WRDS #4						X							X				
EL-1															X		
EL-2															X		
<b>Springs</b>																	
S10-1						X											
S12-1						X											
S13-2							X										
S13-7						X											
S14-4							X										
S15-3							X								X		
S17-2						X											
S22-5							X										
S22-11							X										
S23-4							X										
S24-1 Sulfur Spring							X								X		
S24-12							X										
S26-13							X										
S34-12							X										
S35-8							X										
S36-12							X										
2-413							X								X		
3-290							X										
8-253															X		
WQ1-1							X										
WQ1-39						X											
WQ3-6						X											
WQ3-26						X											
WQ3-41						X											
WQ3-43						X											
WQ4-12						X											

**Table 2.3.7-1  
Comprehensive Water Quality Analytical Schedule  
(Surface and Ground Water Stations)  
(continued)**

Sample Site	1st Quarter					2nd <sup>2</sup> / 3rd <sup>3</sup> / 4th Quarters													
	Lab Analysis <sup>a</sup>	Field parameters only <sup>a1</sup>	Monthly Flow	Dissolved Oxygen	TDS, TSS, T-P	O & G	Lab Analysis <sup>a</sup>	Qtrly Field parameters* only <sup>1</sup>	Quarterly Flow	Monthly Flow	Monthly Seasonal Flow	Quarterly Water Level Only	Dissolved Oxygen	TDS, TSS, T-P	O & G	Carbon 14	Tritium	Deuterium	Oxygen 18
<b>Wells</b>																			
JC-1		X					X	X				X			X	X	X	X	X
JC-3		X					X	X				X							
ELD-1		X						X											
W79-10-1B											X								
W79-14-2A											X								
W79-26-1											X								
W79-35-1A											X								
W79-35-1B											X								
W2-1(98-2-1)											X								
W20-4-1											X								
W20-4-2											X								
W99-4-1											X								
W99-21-1											X								
W99-28-1 (DELETE)											X								
W20-28-1											X								
91-26-1											X								
91-35-1											X								
92-91-03							X												

\* Field Measurements and Laboratory Analyses are defined in Table 2.3.7-2

<sup>a</sup>Field parameters will be taken in conjunction with samples collected for Lab Analyses

<sup>1</sup>Sites with at least two (2) years of laboratory analysis data will be sampled once every five (5) years for the currently approved laboratory parameters in Table 2.3.7-2 beginning in 2010. If field parameter monitoring indicates any trending changes, regular laboratory analysis may be resumed until trend is adequately characterized.

<sup>2</sup>2nd Quarter sampling may extend to July 15 in years when spring snow conditions do not allow access before June.

<sup>3</sup>Baseline Lab Analysis will be conducted every five (5) years beginning in 2010 in the 3rd quarter. (ie. Years 2010, 2015, 2020, etc.)

Table 2.3.7-1  
 Comprehensive Water Quality Analytical Schedule  
 (Surface and Ground Water Stations)

Sample Site	1st Quarter					2nd <sup>2</sup> / 3rd <sup>3</sup> / 4th Quarters													
	Lab Analysis <sup>a,b</sup>	Field parameters only <sup>a1</sup>	Monthly Flow	Dissolved Oxygen	TDS, TSS, T-P	O & G	Lab Analysis <sup>a2</sup>	Qtrly Field parameters* only <sup>1</sup>	Quarterly Flow	Monthly Flow	Monthly Seasonal Flow	Quarterly Water Level Only	Dissolved Oxygen	TDS, TSS, T-P	O & G	Carbon 14	Tritium	Deuterium	Oxygen 18
<b>Streams</b>																			
CS-3							X								X				
CS-6	X			X			X					X							
CS-7 (F-5)								X											
CS-8								X											
CS-9							X												
CS-10								X											
CS-11							X												
CS-12	X						X												
CS-13	X						X												
CS-14	X						X												
CS-16								X											
CS-17								X											
CS-18								X											
CS-19							X												
CS-20							X												
CS-21							X												
CS-22									X										
CS-23									X										
MD-1			X		X					X				X					
SRD-1			X							X									
F-10								X											
UP&L-10							X												
VC-6	X			X		X	X					X		X					
VC-9	X			X		X	X					X		X					
VC-10		X						X											
VC-11									X										
VC-12									X										
NL-1 through NL-42 (See Section 2.4.4)											X								

Table 2.3.7-1  
 Comprehensive Water Quality Analytical Schedule  
 (Surface and Ground Water Stations)  
 (continued)

Sample Site	1st Quarter					2nd <sup>2</sup> / 3rd <sup>3</sup> / 4th Quarters													
	Lab Analysis <sup>a,b</sup>	Field parameters only <sup>a,1</sup>	Monthly Flow	Dissolved Oxygen	TDS, TSS, T-P	O & G	Lab Analysis <sup>a,b</sup>	Qtrly Field parameters* only <sup>1</sup>	Quarterly Flow	Monthly Flow	Monthly Seasonal Flow	Quarterly Water Level Only	Dissolved Oxygen	TDS, TSS, T-P	O & G	Carbon 14	Tritium	Deuterium	Oxygen 18
<b>Streams (cont.)</b>																			
WRDS #1						X								X					
WRDS #2						X								X					
WRDS #3						X								X					
WRDS #4						X								X					
EL-1																	X		
EL-2																	X		
<b>Springs</b>																			
S10-1						X													
S12-1						X													
S13-2							X												
S13-7						X													
S14-4							X												
S15-3							X									X			
S17-2						X													
S22-5							X												
S22-11							X												
S23-4							X												
S24-1 Sulfur Spring							X									X			
S24-12							X												
S26-13							X												
S34-12							X												
S35-8							X												
S36-12							X												
2-413							X									X			
3-290							X												
8-253																X			
WQ1-1							X												
WQ1-39						X													
WQ3-6						X													
WQ3-26						X													
WQ3-41						X													
WQ3-43						X													
WQ4-12						X													

Table 2.3.7-1  
 Comprehensive Water Quality Analytical Schedule  
 (Surface and Ground Water Stations)  
 (continued)

Sample Site	1st Quarter					2nd <sup>2</sup> / 3rd <sup>3</sup> / 4th Quarters													
	Lab Analysis <sup>a,b</sup>	Field parameters only <sup>a,1</sup>	Monthly Flow	Dissolved Oxygen	TDS, TSS, T-P	O & G	Lab Analysis <sup>a,b</sup>	Qtrly Field parameters* only <sup>1</sup>	Quarterly Flow	Monthly Flow	Monthly Seasonal Flow	Quarterly Water Level Only	Dissolved Oxygen	TDS, TSS, T-P	O & G	Carbon 14	Tritium	Deuterium	Oxygen 18
<b>Wells</b>																			
JC-1		X					X	X				X		X	X	X	X	X	X
JC-3		X					X	X				X							
ELD-1		X						X											
W79-10-1B											X								
W79-14-2A											X								
W79-26-1											X								
W79-35-1A											X								
W79-35-1B											X								
W2-1(98-2-1)											X								
W20-4-1											X								
W20-4-2											X								
W99-4-1											X								
W99-21-1											X								
W20-28-1											X								
91-26-1											X								
91-35-1											X								
92-91-03							X												

\* Field Measurements and Laboratory Analyses are defined in Table 2.3.7-2

<sup>a</sup>Field parameters will be taken in conjunction with samples collected for Lab Analyses

<sup>1</sup>Sites with at least two (2) years of laboratory analysis data will be sampled once every five (5) years for the currently approved laboratory parameters in Table 2.3.7-2 beginning in 2010. If field parameter monitoring indicates any trending changes, regular laboratory analysis may be resumed until trend is adequately characterized.

<sup>2</sup>2nd Quarter sampling may extend to July 15 in years when spring snow conditions do not allow access before June.

<sup>3</sup>Baseline Lab Analysis will be conducted every five (5) years beginning in 2010 in the 3rd quarter. (ie. Years 2010, 2015, 2020, etc.)

TABLE 2.3.7-3  
MONITORING STATION IDENTIFICATION

ECCLES CANYON/MUD CREEK DRAINAGES

STREAM STATIONS - ~~1222~~ Stations

<del>CS-1</del>	CS-3	<del>CS-4</del>	CS-6	CS-9	CS-11	<del>CS-15</del>
VC-6	VC-9	VC-10	<del>MC-1</del>	<del>MC-2</del>	<del>MC-3</del>	<del>MC-4</del>
<del>MC-5</del>	<del>MC-6</del>	CS-19	CS-20	CS-21	VC-11	VC-12

MINE DISCHARGE STATIONS - 4 Stations

CS-12 (Mine #3)      CS-14 (Mine #1)      MD-1 (Composite CS-12 & CS-14)  
SRD-1 (Total Mine Site Discharge to Eccles Creek/Scofield Reservoir)\*

FRENCH DRAIN STATIONS - 1 Station

CS-13

HUNTINGTON CANYON

STREAM STATIONS - 12 Stations

CS-7 (F-5)	CS-8	<del>CS-1</del>	CS-16	CS-17	CS-18	CS-22
CS-23	<del>UPL-3*</del>	UPL-10	<del>F-9CS-10</del>	F-10	EL-1	EL-2

~~\*Discontinued Spring, 1989~~

WASTE ROCK DISPOSAL SITE

STREAM STATIONS - 4 Stations

WRDS #1    WRDS #2    WRDS #3    WRDS #4

GROUNDWATER STATIONS

SPRINGS - 26 Stations

S10-1	S12-1	S13-2	S13-7	S14-4	S15-3	S17-2
S22-5	S22-11	S23-4	S24-1 Sulfur	S24-12	S26-13	S34-12
S35-8	S36-12	2-413	3-290	WQ1-39	WQ3-6	WQ3-26
WQ3-41	WQ3-43	WQ4-12	8-253	WQ1-1		

WELLS (MONITORING) - ~~1749~~ Well Stations

W79-10-1B	W79-14-2A	W79-26-1	W79-35-1A	W79-35-1B
92-91-03	W2-1(98-2-1)	W20-4-1	W20-4-2	W99-4-1
W99-21-1	<del>W99-28-1</del>	W20-28-1	JC-1	JC-3
	ELD-1 (Total of JC-1 and JC-3)*	91-26-1	91-35-1	

WELLS, CULINARY -Referenced but not monitored

W13-1      W13-2      W17-1      W17-3      W24-1

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES)

001 Portal Area    002 Loadout Area    003 Waste Rock Area    JC-3 James Canyon

\* Sites are monitored for total flow only and the results are reported to the Division on a monthly basis.

TABLE 2.3.7-3  
MONITORING STATION IDENTIFICATION

ECCLES CANYON/MUD CREEK DRAINAGES

STREAM STATIONS - 12 Stations

CS-3	CS-6	CS-9	CS-11	CS-19	CS-20
CS-21	VC-6	VC-9	VC-10	VC-11	VC-12

MINE DISCHARGE STATIONS - 4 Stations

CS-12 (Mine #3)	CS-14 (Mine #1)	MD-1 (Composite CS-12 & CS-14)
SRD-1 (Total Mine Site Discharge to Eccles Creek/Scofield Reservoir)*		

FRENCH DRAIN STATIONS - 1 Station

CS-13

HUNTINGTON CANYON

STREAM STATIONS - 12 Stations

CS-7 (F-5)	CS-8	CS-10	CS-16	CS-17	CS-18
CS-22	CS-23	UPL-10	F-10	EL-1	EL-2

WASTE ROCK DISPOSAL SITE

STREAM STATIONS - 4 Stations

WRDS #1 WRDS #2 WRDS #3 WRDS #4

GROUNDWATER STATIONS

SPRINGS - 26 Stations

S10-1	S12-1	S13-2	S13-7	S14-4	S15-3	S17-2
S22-5	S22-11	S23-4	S24-1 Sulfur	S24-12	S26-13	S34-12
S35-8	S36-12	2-413	3-290	WQ1-39	WQ3-6	WQ3-26
WQ3-41	WQ3-43	WQ4-12	8-253	WQ1-1		

WELLS (MONITORING) - 17 Well Stations

W79-10-1B	W79-14-2A	W79-26-1	W79-35-1A	W79-35-1B
92-91-03	W2-1(98-2-1)	W20-4-1	W20-4-2	W99-4-1
W99-21-1	W20-28-1	JC-1	JC-3	91-26-1
91-35-1	ELD-1 (Total of JC-1 and JC-3)*			

WELLS, CULINARY -Referenced but not monitored

W13-1	W13-2	W17-1	W17-3	W24-1
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NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES)

001 Portal Area    002 Loadout Area    003 Waste Rock Area    JC-3 James Canyon

\* Sites are monitored for total flow only and the results are reported to the Division on a monthly basis.

accessible earlier than June or later than October, the mine will monitor the sites. The results of the monitoring will be reported with the other required monitoring data. The purpose of this monitoring is to determine the effects, if any, on the stretches of perennial streams in the Winter Quarters Creek and Woods Canyon Creek drainage that will be subsided due to mining. Monitoring points, in perennial reaches running perpendicular to the longwall panels, are positioned above the gate-roads and center of each panel. Longwall panels are approximately 850-feet wide, creating a flow-monitoring spacing of approximately 425-feet. Monitoring points in perennial reaches running parallel to the longwall panels are spaced at approximately 850-feet. Since monitoring is dependent on the timing of mining, monitoring points will be added and dropped as mining advances. As mining advances through the perennial sections of the drainage, and the monitoring indicates no affects to flow, the Permittee may modify the spacing of the monitoring points. This monitoring will also help indicate if mitigation is required for loss of surface or ground water and, subsequently, habitat associated with the water. Spacing of monitoring sites was reduced to one (1) site per approximately 850-feet in 2009.

Skyline has conducted field studies to determine the location of the perennial portions of both Winter Quarters and Woods Canyon Creeks, though no mining is currently planned within the next five years in the Woods Canyon drainage. The perennial nature of the streams were determined using a variety of parameters including vegetation and surface flow monitoring. Field studies were initiated and completed in October and November 2002 and October 2003. Copies of the studies are included in Volume A-1 Hydrology Section. The studies will be used by the Forest in their environmental assessment of the potential effects of undermining Winter Quarters and Wood Canyon Creeks.

Sampling will continue according to Tables 2.3.7-1, 2.3.7-2, and 2.3.7-3 as approved at all surface water stations throughout the post-mining period and until the reclamation effort is determined successful by the

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Sampling will continue according to Tables 2.3.7-1, 2.3.7-2, and 2.3.7-3 as approved at all surface water stations throughout the post-mining period and until the reclamation effort is determined successful by the