

Musick - DNR, Jason <jason.musick@state.co.us>

### FW: PEC SCC SIIW 4Q16 IIR

1 message

Watterson, Brian < BWatterson@peabodyenergy.com>

Wed, Feb 8, 2017 at 1:12 PM

To: "Musick - DNR, Jason <jason.musick@state.co.us> (jason.musick@state.co.us)" <jason.musick@state.co.us>

From: Troy Summers [mailto:tsummers@wwcengineering.com]

**Sent:** Monday, January 23, 2017 12:44 PM

To: Watterson, Brian

**Cc:** Blomquist, Miranda; Dennis Jones **Subject:** PEC SCC SIIW 4Q16 IIR

Brian,

Attached is the Fourth Quarter 2016 Impoundment Inspection Report for the Seneca II W Mine.

Please contact me with any comments and/or questions.

Thanks,

Troy



### Troy Summers | Project Manager

611 Skyline Road | Laramie, WY 82070

Tel. 307-742-0031 | Cell 307-399-5261

http://www.wwcengineering.com/

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# **Seneca Coal Company**

January 23, 2017

Janet Binns Colorado Division of Reclamation, Mining and Safety 1313 Sherman Street Denver, CO 80203

RE: Seneca II W Mine, Permit C-82-057, 4Q16 IIR

Dear Janet:

In accordance with Rule 4.05.9(17), please find enclosed the Seneca II West Mine Impoundment Inspection Reports (IIR) and Impoundment Inspection Log (IIL) for Ponds:

Pond #005, Pond #006, Pond #008, Pond #009, Pond #015, Pond #016, Pond #017

and Stock Tanks:

• Stock Tank T-1, Stock Tank T-2, Stock Tank T-3, Stock Tank T-5, Stock Tank T-18, Stock Tank T-20, Stock Tank T-22, Stock Tank T-24, Stock Tank T-25, Stock Tank T-26 and Stock Tank T-27.

No maintenance is required at this time. Please contact me with any comments and/or questions.

Sincerely,

Brian Watterson Geologist

TNS/tns

Enclosure: Seneca II W IIR

Date   Last Inspected   Inpoundment   Pond Dots   Pond Location   NPDES ID No Owner's Rep   Pond Location   Site Location	Mining Area	Seneca II West Mine	Facility C	onfiguration	Cross	s-Vally Pond						
NPDES ID No Owner's Rep		10/3/2016	Date Las	st Inspected	8,	/1/2016						
NPDES ID No Owner's Rep	Impoundment	Pond #005	Pond	Location	NW¼ SW¼, Sec. 10, T5N, R88W		Qua	rterly Impoundment Inspection Form				
Mark or Write in Appropriate Response:	NPDES ID No	CMLRD Permit No. C-82-057	Site I	Location	8 mi. S	of Hayden, CO	_					
FEATURE	Owner's Rep	Brian Watterson	Ins	pector	Jaso	on Herden						
YES (Above)   NO (Below)												
Water Level (above or below principal spillway)		FEATURE						COMMENTS				
Water Level (above or below principal spillway)   7.4				YES (At	ove)	NO (Belo	w)					
Existing Embankment Freeboard (7.4 ft) Outflow (gpm)  Rills & Gullies on Embankment Wave Erosion Spillway Erosion Burrows Other  TRUCTURAL Differential Settling Cracks or Slides Seepage Other  TRUCTURES Principal Spillway Clogged or Damaged Culvert Damaged Headgate Emergency Spillway Erosion  Riprap Clogged or Damaged Culvert Damaged Culvert Damaged Culvert Damaged Culvert Damaged Culvert Clogged or Damaged Culvert Damaged Cul												
Outflow (gpm)         X           EROSION         X           Rills & Gullies on Embankment         X           Wave Erosion         X           Spillway Erosion         X           Burrows         X           Other         X           STRUCTURAL           Differential Settling         X           Cracks or Slides         X           Seepage         X           Other         X           STRUCTURES           Principal Spillway         X           Clogged Orifice         X           Clogged or Damaged Culvert         X           Damaged Headgate         NA           Emergency Spillway         X           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           Maintenance Required         X           Maintenance Performed         X						Х		Water level 1.6 feet below spillway				
Rills & Gullies on Embankment		Freeboard (7.4 ft)		7.4								
Rills & Gullies on Embankment         X           Wave Erosion         X           Spillway Erosion         X           Burrows         X           Other         X           STRUCTURAL           Differential Settling         X           Cracks or Slides         X           Seepage         X           Other         X           STRUCTURES           Principal Spillway           Clogged Orifice         X           Clogged or Damaged Culvert         X           Damaged Headgate         NA           Emergency Spillway           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           Maintenance Required         X           Maintenance Performed         X						X						
Wave Erosion         X           Spillway Erosion         X           Burrows         X           Other         X           STRUCTURAL           Urrow of Stides           Seepage         X           Other         X           STRUCTURES           Principal Spillway           Clogged or fifice         X           Clogged or Damaged Culvert         X           Damaged Headgate         NA           Emergency Spillway           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           Maintenance Required         X           Maintenance Performed         X						1						
Spillway Erosion         X           Burrows         x           Other         X           STRUCTURAL           Differential Settling         X           Cracks or Slides         X           Seepage         X           Other         X           STRUCTURES           Principal Spillway           Clogged Orifice         X           Clogged or Damaged Culvert         X           Damaged Headgate         NA           Emergency Spillway           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           Maintenance Required         X           Maintenance Performed         X		bankment										
Name												
Other         X           STRUCTURAL           Differential Settling         X           Cracks or Slides         X           Scepage         X           Other         X           STRUCTURES           Principal Spillway         X           Clogged Orifice         X           Clogged or Damaged Culvert         X           Damaged Headgate         NA           Emergency Spillway         X           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           MAINTENACE           Maintenance Required         X           Maintenance Performed         X						X						
STRUCTURAL												
X						X						
Cracks or Slides         X           Seepage         X           Other         X           STRUCTURES           Principal Spillway           Clogged Orifice         X           Clogged or Damaged Culvert         X           Damaged Headgate         NA           Emergency Spillway           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           Maintenance Required         X           Maintenance Performed         X												
Seepage         X           Other         X           STRUCTURES           Principal Spillway         X           Clogged Orifice         X           Clogged or Damaged Culvert         X           Damaged Headgate         NA           Emergency Spillway         X           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           MAINTENACE         X           Maintenance Required         X           Maintenance Performed         X	_											
Other         X           STRUCTURES           Principal Spillway         X           Clogged Orifice         X           Clogged or Damaged Culvert         X           Damaged Headgate         NA           Emergency Spillway           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           MAINTENACE           Maintenance Required         X           Maintenance Performed         X												
STRUCTURES           Principal Spillway         X           Clogged Orifice         X           Clogged or Damaged Culvert         X           Damaged Headgate         NA           Emergency Spillway         X           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           MAINTENACE           Maintenance Required         X           Maintenance Performed         X												
Principal Spillway         X           Clogged Orifice         X           Clogged or Damaged Culvert         X           Damaged Headgate         NA           Emergency Spillway         X           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           MAINTENACE           Maintenance Required         X           Maintenance Performed         X						X						
Clogged Orifice         X           Clogged or Damaged Culvert         X           Damaged Headgate         NA           Emergency Spillway         X           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           MAINTENACE           Maintenance Required         X           Maintenance Performed         X												
Clogged or Damaged Culvert         X           Damaged Headgate         NA           Emergency Spillway         X           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           MAINTENACE           Maintenance Required         X           Maintenance Performed         X								T				
Damaged Headgate         NA           Emergency Spillway         X           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           MAINTENACE           Maintenance Required         X           Maintenance Performed         X		od Culment						-				
Emergency Spillway           Erosion         X           Riprap         X           Clogged or Damaged Culvert         X           Other         X           MAINTENACE           Maintenance Required         X           Maintenance Performed         X								-				
Erosion		;				INA						
X	_ , ,					v						
X   Other								1				
Other         X           MAINTENACE           Maintenance Required         X           Maintenance Performed         X	* *	d Culvert						1				
MAINTENACE  Maintenance Required  Maintenance Performed  X  X		a Carrott						1				
Maintenance Required X Maintenance Performed X						^						
Maintenance Performed X						х						
								1				
	Additional Comments							1				

Mining Area	Seneca II West Mine	Facility C	onfiguration	Cross	s-Vally Pond					
Date Inspected	10/3/2016	Date Las	st Inspected	8,	/2/2016					
Impoundment	Pond #006	Pond	Location	ocation NW¼ NW¼, Sec. 22, T5N, R88W		Quai	rterly Impoundment Inspection Form			
NPDES ID No	CO-0000221 D.P. 006	Site I	Location	ation 8 mi. S of Hayden, CO		•	· · ·			
Owner's Rep	Brian Watterson	Ins	pector	Jaso	on Herden					
Mark or Write in Appropriate Response:										
	FEATURE				DBLEM		COMMENTS			
			YES (Al	oove)	NO (Belo	w)				
GENERAL										
,	r below principal spillw	ay)	X				water level 0.05 feet above spillway			
Existing Embankment	Freeboard (7.5 ft)		7.5							
Outflow (gpm)			Х				99			
EROSION			1		1					
Rills & Gullies on Em	bankment				Х					
Wave Erosion					Х					
Spillway Erosion					X					
Burrows					Х					
Other					X					
STRUCTURAL										
Differential Settling					Х					
Cracks or Slides					Х					
Seepage					Х					
Other					Х					
STRUCTURES										
Principal Spillway			ı		1					
Clogged Orifice					Х					
Clogged or Damag					Х					
Damaged Headgate	e				NA					
Emergency Spillway			1		T					
Erosion					Х					
Riprap					Х					
Clogged or Damage	ed Culvert				Х					
Other			L		X					
	MAINTENACE									
Maintenance Required				X		Big sluff on S. side above pond on hill, currently not affecting pond				
Maintenance Perform					Х					
Additional Comments	l		Х							

Mining Area	Seneca II Mine		Configuration	Cross-	Vally Pond		
Date Inspected	10/4/2016	Date La	Date Last Inspected		8/1/2016		
Impoundment	Pond #008	Pond	Location	SE¼SW¼, Se	ec. 7, T5N, R86W	Ouai	rterly Impoundment Inspection Form
NPDES ID No	CO-0000221 D.P.008	Site	Location	7.1 mi SE	of Hayden, CO	•	, , , , , , , , , , , , , , , , , , ,
Owner's Rep	Brian Watterson	Ins	spector	Jasor	n Herden		
			Mark	or Write	in Appropriat	e Respons	se:
	FEATURE			PROF	BLEM		COMMENTS
			YES (At	oove)	NO (Bel	ow)	
GENERAL							
Water Level (above or	r below principal spillw	ay)	Х				Water Level 0.1 above spillway
Existing Embankment	Freeboard (4.7 ft)		4.7				
Outflow (gpm)			X				34
EROSION							
Rills & Gullies on Em	bankment				Х		
Wave Erosion					Х		
Spillway Erosion					X		
Burrows				X			
Other					X		
STRUCTURAL							
Differential Settling					Х		
Cracks or Slides					Х		
Seepage					Х		
Other					Х		
STRUCTURES							
Principal Spillway			,				
Clogged Orifice					Х		
	Clogged or Damaged Culvert			x			
Damaged Headgate	9				NA		
Emergency Spillway			,				
Erosion					Х		
Rinran			I		Y		

Χ

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NO LONGER REQUIRED DUE TO FINAL BOND RELEASE

Riprap

Other

Clogged or Damaged Culvert

MAINTENACE
Maintenance Required
Maintenance Performed

Additional Comments

Mining Area	Seneca II West Mine	Facility C	Configuration	Cross-	Vally Pond		
Date Inspected	10/3/2016	Date La	st Inspected	8/:	1/2016		
Impoundment	Pond #009	Pond	Location	SE¼ SW¼, Sec. 11, T5N, R8		Oua	rterly Impoundment Inspection Form
NPDES ID No	CO-0000221 D.P. 009	Site	Location	8 mi. S of Hayden, CO			J P I I I I I I I I I I I I I I I I I I
Owner's Rep	Brian Watterspm	Ins	pector	Jasoi	n Herden		
_			Marl	or Write	in Appropriat	e Respons	se:
	FEATURE			PRO	BLEM		COMMENTS
			YES (At	oove)	NO (Belo	ow)	
GENERAL							
	r below principal spillwa	ay)	X				Water level 2.5 feet below top of pipe
Existing Embankment	Freeboard (6.9 ft)		8.9				
Outflow (gpm)					X		
EROSION							
Rills & Gullies on Em	bankment				X		
Wave Erosion					X		
Spillway Erosion					X		
Burrows					X		
Other					X		
STRUCTURAL							
Differential Settling					Х		
Cracks or Slides					X		
Seepage					X		
Other					X		
STRUCTURES							
Principal Spillway			1				
Clogged Orifice					X		
Clogged or Damag					X		
Damaged Headgate	9				NA		
Emergency Spillway			T			1	
Erosion					X		
Riprap					X		
Clogged or Damage	ed Culvert				X		
Other					X		
MAINTENACE			ı	- 1			
Maintenance Required					X		
Maintenance Perform					X		
Additional Comments					Х		

Mining Area	Seneca II West Mine	Engility C	Yam Gannat'	C	Valle David						
			~		-Vally Pond /1/2016						
Date Inspected	10/4/2016		st Inspected	-		•	4 1 T 1 4 T 4 T				
Impoundment	Pond #015		· ·		ec. 23, T5N, R88W	Qua	rterly Impoundment Inspection Form				
NPDES ID No	CO-0000221 D.P. 015		Location		of Hayden, CO						
Owner's Rep	Brian Watterson	Ins	spector		n Herden						
	Mark or Write in Appropriate Response:										
	FEATURE				BLEM		COMMENTS				
			YES (At	oove)	NO (Bel	ow)					
GENERAL											
	r below principal spillw	ay)	X				water level 0.06 feet above spillway				
Existing Embankment	Freeboard (4.0 ft)		4.0								
Outflow (gpm)			X				6				
EROSION											
Rills & Gullies on Em	bankment				Х						
Wave Erosion					Х						
Spillway Erosion					Х						
Burrows					Х						
Other					X						
STRUCTURAL											
Differential Settling					X						
Cracks or Slides					X						
Seepage					X						
Other					X						
STRUCTURES											
Principal Spillway											
Clogged Orifice					Х						
Clogged or Damag					Х						
Damaged Headgate	e				NA						
Emergency Spillway											
Erosion					Х						
Riprap					Х						
Clogged or Damage	ed Culvert				Х						
Other					Х						
MAINTENACE											
Maintenance Required					Х						
Maintenance Perform	ed				Х						
A 11'4' 1 C			1		1						

Additional Comments

Mining Area	Seneca II West Mine			Cross-V	ally Pond		
Date Inspected	10/4/2016	Date La	st Inspected	st Inspected 8/2/2016			
Impoundment	Pond #016	Pond	Location	NE¼ SE¼, Sec.	. 27, T5N, R88W	Quai	rterly Impoundment Inspection Form
NPDES ID No	CO-0000221 D.P. 016	Site	Location	8 mi. S of	Hayden, CO	•	
Owner's Rep	Brian Watterson	Ins	spector	Jason	Herden		
			Mark	or Write ii	n Appropria	te Respor	nse:
	FEATURE			PROBI	LEM		COMMENTS
			YES (Al	bove)	NO (Be	elow)	
GENERAL							
Water Level (above o	or below principal spillw	/ay)	X				water level 0.03 feet above spillway
Existing Embankmen	t Freeboard (6.8 ft)		6.8	}			
Outflow (gpm)			X				28.6
EROSION							
Rills & Gullies on En	nbankment				Х		
Wave Erosion					X		
Spillway Erosion					X		
Burrows					X		
Other					X		
STRUCTURAL							
Differential Settling					Х		
Cracks or Slides					X		
Seepage						X	
Other					Х		
STRUCTURES							
Principal Spillway							
Clogged Orifice					Х		
Clogged or Damag			X				
Damaged Headgat	e		<u> </u>		NA		
Emergency Spillway							
Erosion					Х		
Riprap					X		
Clogged or Damag	ed Culvert				X		

Χ

Some seepage under flume, applied bentonite to area

Χ

Other

MAINTENACE

Maintenance Required

Maintenance Performed Additional Comments

Mining Area	Seneca II West Mine	Facility (	Configuration	Cross	-Vally Pond		
Date Inspected	10/4/2016	Date La	st Inspected	8/	/2/2016		
Impoundment	Pond #017	Pond	Location SW% NE%, Se		Sec. 34, T5N, R88W	Qua	rterly Impoundment Inspection Form
NPDES ID No	CO-0000221 D.P. 017	Site	Location	8 mi. S c	of Hayden, CO	•	
Owner's Rep	Brian Watterson	Ins	spector	Jaso	n Herden		
_			Mark	or Write	in Appropriat	e Respons	se:
	FEATURE				BLEM		COMMENTS
			YES (At	ove)	NO (Belo	ow)	
GENERAL							
	r below principal spillw	ay)	X				water level 0.05 feet above spillway
Existing Embankment	t Freeboard (3.1 ft)		3.1				
Outflow (gpm)			X				14.6
EROSION							
Rills & Gullies on Em	bankment				Х		
Wave Erosion					Х		
Spillway Erosion					Х		
Burrows					Х		
Other					Х		
STRUCTURAL					T		
Differential Settling					X		
Cracks or Slides					Х		
Seepage					X		
Other					X		
STRUCTURES							
Principal Spillway							T
Clogged Orifice	- I Colour				X		
Clogged or Damag							
Damaged Headgate Emergency Spillway	e		L		NA		
Erosion			1		Х		
Riprap					X		
Clogged or Damage	ed Culvert				X		
Other	Lu Curvert				X		
MAINTENACE							
Maintenance Required	1		1		Х		Sluff on North side, armour is working
Maintenance Perform					X		Stati of North Stac, armour is working
Additional Comments			X		^		
raditional Comments			^				

Mining Area	Seneca II West Mine	Facility C	configuration	Stoo	ckpond							
Date Inspected	10/3/2016	Date Las	st Inspected	8/3	3/2016							
Impoundment	Stock Tank T-1	Pond	Location	SE%SW%, Sec 16, T5N, R88W		Qua	rterly Impoundment Inspection Form					
NPDES ID No	N/A	Site 1	Location	8 mi S of	Hayden, CO	•						
Owner's Rep	Brian Watterson	Ins	pector	Jason	n Herden							
	Mark or Write in Appropriate Response:											
	FEATURE			PROB			COMMENTS					
			YES (At	oove)	NO (Bel	ow)						
GENERAL												
Water Level (above or	below principal spillw	ay)			X							
EROSION												
Rills & Gullies on Em	bankment				Х							
Wave Erosion					X							
Spillway Erosion					N/A							
Burrows					X							
Other					X							
STRUCTURAL												
Differential Settling					X							
Cracks or Slides					X							
Seepage			X									
Other			X									
STRUCTURES												
Principal Spillway												
Clogged Orifice					N/A							
Clogged or Damage				N/A								
Damaged Headgate					N/A							
Emergency Spillway												
Erosion					X							
Riprap					X							
Clogged or Damaged Culvert					N/A							
Other					X							
MAINTENACE				1								
Maintenance Required			X									
Maintenance Performe					X							
Additional Comments					X							

Mining Area	Seneca II West Mine	Facility (	Configuration	Sto	ckpond						
Date Inspected	10/4/2016		st Inspected		3/2016						
Impoundment	Stock Tank T-2		Location	NW¼SW¼, Sec 22, T5N, R88W		Onai	rterly Impoundment Inspection Form				
NPDES ID No	N/A	Site	Location		f Hayden, CO	Quu	terry impoundment inspection i orm				
Owner's Rep	Brian Watterson	Ins	spector		n Herden						
			_	or Write	in Appropriat	e Respons	e:				
	FEATURE			COMMENTS							
			YES (Ab	ove)	NO (Belo	ow)					
GENERAL											
Water Level (above or	below principal spillwa	ay)			Х		Water level 2.4 feet below spillway				
EROSION											
Rills & Gullies on Em	bankment				X						
Wave Erosion					X						
Spillway Erosion					X						
Burrows					X						
Other					Х						
STRUCTURAL			T								
Differential Settling					X						
Cracks or Slides			X								
Seepage			X								
Other					X						
STRUCTURES											
Principal Spillway			1	ı	NIA.						
Clogged Orifice	ad Culerant				NA NA						
Clogged or Damag Damaged Headgate					NA NA						
Emergency Spillway					INA						
Erosion			1		Х						
Riprap				X							
	ed or Damaged Culvert				NA NA						
Other	a carrer				X						
MAINTENACE											
Maintenance Required					Х						
*	Maintenance Performed				Х						
Additional Comments					Х						

Mining Area	Seneca II West Mine	Facility C	Configuration	Sto	ckpond						
Date Inspected	10/4/2016	Date La	st Inspected	8/3	3/2016						
Impoundment	Stock Tank T-3		Location	NW¼SE¼, Se	ec 22, T5N, R88W	Ona	rterly Impoundment Inspection Form				
NPDES ID No	N/A	Site	Location		Hayden, CO	Zuu	in the production of the produ				
Owner's Rep	Brian Watterson	Ins	spector		n Herden						
				or Write	in Appropriat	e Respons	e:				
	FEATURE		1		BLEM	<u>-</u>	COMMENTS				
			YES (Ab	ove)	NO (Bel	ow)					
GENERAL											
Water Level (above or	below principal spillw	ay)			Х		Water level 2.3 feet below spillway				
EROSION											
Rills & Gullies on Em	bankment				Х						
Wave Erosion					Х						
Spillway Erosion					X						
Burrows					X						
Other					X						
STRUCTURAL			•								
Differential Settling					Х						
Cracks or Slides					Х						
Seepage				X							
Other					X						
STRUCTURES											
Principal Spillway			1								
Clogged Orifice	101				NA						
Clogged or Damage					NA						
Damaged Headgate Emergency Spillway	;			NA							
Erosion Erosion			1		Х						
Riprap				X							
Clogged or Damage	d Culvert			NA NA							
Other	a Curvett				X						
MAINTENACE			<u> </u>								
Maintenance Required			1		Х						
Maintenance Performe				X							
Additional Comments					X						
					,						

Mining Area	Seneca II West Mine	Facility Configuration	n Stoc	kpond		
Date Inspected	10/4/2016	Date Last Inspected	8/2	/2016		
Impoundment	Stock Tank T-5	Pond Location	NE¼ Sec 2	NE¼ Sec 22, T5N, R88W		rterly Impoundment Inspection Form
NPDES ID No	N/A	Site Location	8 mi S of	Hayden, CO		v 1
Owner's Rep	Brian Watterson	Inspector	Jason	Herden		
		Mar	k or Write i	n Appropri	ate Respo	nse:
	FEATURE		PROB			COMMENTS
		YES (	Above)	NO (B	elow)	
GENERAL						
Water Level (above or	r below principal spillw	ay)		X		Water level 1.9 feet below spillway
EROSION						
Rills & Gullies on Em	bankment			Х		
Wave Erosion				Х		
Spillway Erosion				Х		
Burrows				Х		
Other				Х		
STRUCTURAL						
Differential Settling				Х		
Cracks or Slides				Х		
Seepage				Х		
Other				Х		
STRUCTURES						
Principal Spillway						
Clogged Orifice				N/		
Clogged or Damag				N/		
Damaged Headgate	2			N/	1	
Emergency Spillway		<u> </u>				
Erosion				X		
Riprap	od Culviant					
Clogged or Damage Other	eu Cuivert			N/ X		
MAINTENACE				, X		
Maintenance Required	1			X		
Maintenance Perform				X		
Additional Comments				X		
raditional Comments				^		

Mining Area	Seneca II West Mine	Facility (	Configuration	Sto	ckpond							
Date Inspected	10/3/2016		st Inspected		3/2016							
Impoundment	Stock Tank T-18		Location	NW¼NE¼, Sec 15, T5N, R88W		Onar	terly Impoundment Inspection Form					
NPDES ID No	N/A		Location		Hayden, CO	Quai	terry impoundment inspection Form					
Owner's Rep	Brian Watterson		spector		n Herden							
Owner s Kep	Briair Watterson	1115	_			a Pacnanc	Δ*					
	Mark or Write in Appropriate Response:  FEATURE PROBLEM COMMENTS											
	Littere		YES (AI		NO (Bel	ow)	COMMENTO					
YES (Above) NO (Below) GENERAL												
	below principal spillwa	av)			Х		Dry					
EROSION	cerow principal spin w	<del>"</del> ] /										
Rills & Gullies on Em	bankment				Х							
Wave Erosion					Х							
Spillway Erosion					Х							
Burrows					Х							
Other					Х							
STRUCTURAL			•									
Differential Settling					Х							
Cracks or Slides					Х							
Seepage			X									
Other			X									
STRUCTURES												
Principal Spillway												
Clogged Orifice					NA							
Clogged or Damage				NA								
	Damaged Headgate			NA								
Emergency Spillway												
Erosion					X							
Riprap					X							
	Clogged or Damaged Culvert				NA							
Other					X							
MAINTENACE												
Maintenance Required			X									
Maintenance Performe	ea				X							
Additional Comments					Х							

Mining Area	Seneca II West Mine	Facility C	onfiguration	ation Stockpond			
Date Inspected	10/3/2016	Date Las	st Inspected	Inspected 8/			
Impoundment	Stock Tank T-20	Pond	Location	NW¼NE¼, S	Sec 15, T5N, R88W	Oua	rterly Impoundment Inspection Form
NPDES ID No	N/A	Site I	Location	8 mi S o	f Hayden, CO	•	<i>y</i> 1
Owner's Rep	Jason Herden	Ins	pector	Jaso	n Herden		
			Mark	or Write	in Appropriat	e Respons	se:
	FEATURE			PRO	BLEM		COMMENTS
			YES (Ab	oove)	NO (Bel	ow)	
GENERAL							
Water Level (above or	below principal spillw	ay)			Х		Dry
EROSION							
Rills & Gullies on Em	bankment				Х		
Wave Erosion					X		
Spillway Erosion					X		
Burrows					X		
Other			X				
STRUCTURAL							
Differential Settling			X				
Cracks or Slides					X		
Seepage			Х				
Other			X				
STRUCTURES							
Principal Spillway							
Clogged Orifice					NA		
Clogged or Damag					NA		
Damaged Headgate	2				NA		
Emergency Spillway					1		
Erosion					Х		
Riprap			Х				
Clogged or Damaged Culvert		NA					
Other				Х			
MAINTENACE					ı		
Maintenance Required					Х		
Maintenance Performe	ed				Х		

Additional Comments

Mining Area	Seneca II West Mine	Facility (	Configuration	Sto	ckpond			
Date Inspected	10/3/2016		st Inspected		3/2016			
Impoundment	Stock Tank T-22		Location	SE%SW%, Sec 10, T5N, R88W		Onai	uarterly Impoundment Inspection Form	
NPDES ID No	N/A		Location		Hayden, CO	Quai	terry impoundment inspection form	
Owner's Rep	Brian Watterson		spector		n Herden			
o where steep	Brian Watterson		1			e Respons	Se:	
	FEATURE		1,141,1	or Write in Appropriate Respons			COMMENTS	
			YES (At	oove)	NO (Bel	ow)		
GENERAL			,	,	,			
Water Level (above or	below principal spillw	ay)			Х		Water level 0.8 feet below spillway	
EROSION	• • •	• /	•				<u> </u>	
Rills & Gullies on Em	bankment				Х			
Wave Erosion					Х			
Spillway Erosion					Х			
Burrows					Х			
Other				X				
STRUCTURAL								
Differential Settling				X				
Cracks or Slides				X				
Seepage				X				
Other				X				
STRUCTURES								
Principal Spillway			•		T	1		
Clogged Orifice				NA				
Clogged or Damage				NA				
Damaged Headgate	;				NA			
Emergency Spillway			T		Т	1		
	Erosion				X			
1 1	Riprap			X				
Clogged or Damaged Culvert		NA						
Other				X				
MAINTENACE					I	- 1		
Maintenance Required				X				
Maintenance Performe	ed				X			
Additional Comments					X			

Mining Area	Seneca II West Mine	Facility (	Configuration	Sto	ckpond			
Date Inspected	10/3/2016		st Inspected	8/3/2016				
Impoundment	Stock Tank T-24		Location	SW%NE%, Sec 9, T5N, R88W		Ouar	terly Impoundment Inspection Form	
NPDES ID No	N/A		Location		Hayden, CO	Quai	terry impoundment inspection 1 orm	
Owner's Rep	Brian Watterson		spector		n Herden			
o where strep	Diran Watterson		_		r Write in Appropriate Response:			
	FEATURE		1,141,1	PROF		e respons	COMMENTS	
			YES (Ab	ove)	NO (Bel	low)		
GENERAL			,		<u> </u>	,		
Water Level (above or	below principal spillw	ay)			Х		Dry	
EROSION	• • • •	•	•				·	
Rills & Gullies on Em	bankment				Х			
Wave Erosion					Х			
Spillway Erosion					Х			
Burrows					Х			
Other					X			
STRUCTURAL								
Differential Settling					X			
Cracks or Slides				X				
Seepage				X				
Other				X				
STRUCTURES								
Principal Spillway								
Clogged Orifice				NA				
Clogged or Damage				NA				
Damaged Headgate	<del>)</del>			NA				
Emergency Spillway			1		.,			
Erosion					X			
Riprap Clogged or Damage	d Culvert				NA			
Other	u Curvert			X				
MAINTENACE					^			
Maintenance Required					Х			
Maintenance Performe					X			
Additional Comments	, u				X			
- Icantona Comments								

Mining Area	Seneca II West Mine			Sto	ckpond		
Date Inspected	10/4/2016	Date La	st Inspected	8/2	8/2/2016		
Impoundment	Stock Tank T-25	Pond	Location	SW¼NE¼, Se	ec 34, T5N, R88W	Qua	rterly Impoundment Inspection Form
NPDES ID No	N/A	Site	Location	8 mi S of	f Hayden, CO	•	<i>y</i> 1
Owner's Rep	Brian Watterson	Ins	spector	Jasoi	n Herden		
			Mark	or Write	in Appropriat	e Respons	se:
	FEATURE			PROI	BLEM		COMMENTS
			YES (Ab	ove)	NO (Bel	ow)	
GENERAL							
Water Level (above or	r below principal spillw	ay)			N/A		
EROSION							
Rills & Gullies on Em	bankment				N/A		
Wave Erosion					N/A		
Spillway Erosion					N/A		
Burrows					N/A		
Other				N/A			
STRUCTURAL							
Differential Settling			N/A				
Cracks or Slides				N/A			
Seepage				N/A			
Other					N/A		
STRUCTURES							
Principal Spillway			1		1		
Clogged Orifice				N/A			
Clogged or Damag				N/A			
Damaged Headgate	e				N/A		
Emergency Spillway			T		1		
Erosion					N/A		
* *	Riprap			N/A			
	Clogged or Damaged Culvert		N/A				
Other				N/A			
MAINTENACE	1		ı		1 ,		
Maintenance Required				X			DAM REMOVED FALL 2011, REBUILT IN 2012 AS A RUNOFF
Maintenance Performe					Х		CONTROL STURCURE (PM1-A3)
Additional Comments			Х				

Mining Area	Seneca II West Mine	Facility C	Configuration St		ckpond		
Date Inspected	10/4/2016		st Inspected		8/2/2016		
Impoundment	Stock Tank T-26	Pond	Location	NE¼NW¼, S	ec 35, T5N, R88W	Oua	rterly Impoundment Inspection Form
NPDES ID No	N/A	Site 1	Location	8 mi S of	f Hayden, CO		J 1
Owner's Rep	Brian Watterson	Ins	pector	Jasoi	n Herden		
			Mark	or Write	in Appropriat	e Respons	se:
	FEATURE			PRO	BLEM		COMMENTS
			YES (At	oove)	NO (Bel	ow)	
GENERAL							
`	below principal spillw	ay)			Х		Water level 2.5 feet below spillway
EROSION			T				
Rills & Gullies on Em	bankment				Х		
Wave Erosion					Х		
Spillway Erosion					Х		
Burrows					Х		
Other					Х		
STRUCTURAL			I				
Differential Settling					X		
Cracks or Slides							
Seepage Other				X			
STRUCTURES					Х		
Principal Spillway							
Clogged Orifice			I		NA		
Clogged or Damage	ad Culvert			NA NA			
Damaged Headgate							
Emergency Spillway					NA		
Erosion					Х		
Riprap					X		
Clogged or Damaged Culvert			NA NA				
Other		X					
MAINTENACE							
Maintenance Required					Х		
Maintenance Performe				X			
Additional Comments					Х		

Mining Area	Seneca II West Mine	<b>Facility Configuration</b>		Sto	ockpond		
Date Inspected	10/4/2016	Date La	st Inspected	8/	/2/2016		
Impoundment	Stock Tank T-27	Pond	Location	NW¼NW¼,	NW¼NW¼, Sec 35, T5N, R88W		rterly Impoundment Inspection Form
NPDES ID No	N/A	Site	Location	8 mi S o	of Hayden, CO	_	
Owner's Rep	Brian Watterson	Ins	spector	Jaso	n Herden		
			Marl	or Write	in Appropriat	e Respons	se:
	FEATURE				BLEM		COMMENTS
			YES (Ab	ove)	NO (Belo	ow)	
GENERAL							
	r below principal spillw	ay)			N/A		Water Level 2.6 feet below spillway
EROSION							
Rills & Gullies on Em	ıbankment				N/A		
Wave Erosion					N/A		
Spillway Erosion					N/A		
Burrows					N/A		
Other				N/A			
STRUCTURAL			1	ı			
Differential Settling					N/A		
Cracks or Slides			<b>.</b>		N/A		
Seepage				N/A			
Other				N/A			
STRUCTURES							
Principal Spillway			T	1			
Clogged Orifice					N/A		
Clogged or Damag					N/A		
Damaged Headgate	e			ļ	N/A		
Emergency Spillway			I	1	2.72		
Erosion					N/A		
Riprap	D 101		N/A				
Clogged or Damage	ed Culvert				N/A		
Other					N/A		
MAINTENACE	1		l		.,		DEPUTE IN 2012 AC A PUNIOFF CONTROL CTURGUES
Maintenance Required Maintenance Perform					X		REBUILT IN 2012 AS A RUNOFF CONTROL STURCURE
Additional Comments			Х		Х		
Additional Comments	<u> </u>		X				

## **IMPOUNDMENT INSPECTION LOG**

## **JOB DATA**

JOB NAME: PEC Hydrologic Support Services	CLIENT: Peabody	LOCATION: Routt County, CO
JOB(s): 2016-037 T1-SCC, T2-PSCM		

## **FLOW DATA**

FLOW DA	ΓA							
SITE ID	COMPANY	MINE	DATE	TIME	WATER LEVEL (FT)	OUTFLOW (GPM)	OBSERVATIONS	MAINTENANCE (Y/N)
002	Sage Creek	Sage Creek	10-3-14	13:00	0.28	92.9		N
003	Sage Creek	Sage Creek	10-3-16	12:30	0.12	8,3	Some burlows	N
004	Sage Creek	Sage Creek	10-4-16	07:30	0.13	36.1		$\sim$
Lower Sump	Sage Creek	Sage Creek	10-3-14	13:15	0.05	238.09		N
PECOCO	Sage Creek	Sage Creek	10-3-16	14:20	0.05	142		N
Portal Sump 1	Sage Creek	Sage Creek	10-3-16	13:40	0.02	4		N
Portal Sump 2	Sage Creek	Sage Creek	10-3-16	13:50	_	<u></u>		N
Spill Control 2	Sage Creek	Sage Creek	10-3-16	13:25	_	_	DIS	$\sim$
Truck Wash	Sage Creek	Sage Creek	10-3-16	12:45	_	_	Pro	N
Upper Sump	Sage Creek	Sage Creek	10-3-16	14:10	0.05	134		N
001	Seneca	Hayden Gulch	10-3-16	15:00	- 2.3	~	NO Flow	N
002	Seneca	Hayden Gulch	16-3-16	15:15	_	_	Dry	N
005	Seneca	Seneca II West	10-3-16	15:30	-1.6	_	No Flow	N
006	Seneca	Seneca II West	10-3-16	16:55	0.05	99.01	Big Slation S. Side, not affecting	У
009	Seneca	Seneca II West	10-3-16	14:00	-2.5	_	No Flow, possible seepinant	W
015	Seneca	Seneca II West	10-4-16	•	0.06	6		N
016	Seneca	Seneca II West	10-4-16	11:15	0.03	28.4	placed bentonite under Flume	N
017	Seneca	Seneca II West	10-4-16	11:45	0.05	14.6	slyffon N. sidearmouris w	thing 1
T-1	Seneca	Seneca II West	10-3-16	17:10	-1.2	~	No Flow, Dam removed	N
T-18	Seneca	Seneca II West	10-3-16	16:20			Pro	$\sim$
T-2	Seneca	Seneca II West	10-4-16	13:10	-2.4	_	NO Flow	N
T-20	Seneca	Seneca II West	10-3-16	16:05	· _	_	PIS	$\sim$
T-22	Seneca	Seneca II West	10-3-16	15:45	-0.8	_	NOFION	N
T-24	Seneca	Seneca II West			_	_	מיט	N
T-25	Seneca	Seneca II West	10-4-16	10:45	)	_	runoff control structure	N
T-26	Seneca	Seneca II West	10-4-16	12:20	-2.5	Marine Marine	NO Flow	$\sim$

008

10-4-16 08:30 0.09 34.43

WWCENGINEERING
IMPOUNDMENT INSPECTION LOG

N

SITE ID	COMPANY	MINE	DATE	TIME	WATER LEVEL (FT)	OUTFLOW (GPM)	OBSERVATIONS	MAINTENANCE (Y/N)
T-27	Seneca	Seneca II West	10-4-16	12:46	-2.6	Cauting	No Flow	N
T-3	Seneca	Seneca II West	10-4-16	13:55	-2,3	~	NO FIOW	N
T-5	Seneca	Seneca II West	10-4-16	12:05	-1.9	~	No Flow	N
010	Seneca	Yoast	10-4-16	09:15	0.06	71.43	outlet is justed through	Y
011	Seneca		10-5-16	ı	-1.9	~	No Flow	N
011A	Seneca	Yoast	10-4-16	09:40	-2.1	_	NO FLOW	N
012	Seneca	Yoast	10-3-16	14:15	0.1	67.57	erosion behind tunder neath Flore	У
012A	Seneca	Yoast	10-3-16	14:00	-1.3	_	No Flow	N
013	Seneca	Yoast	10-3-16	14:38	-1.3	)	NO Flow	N
014	Seneca	Yoast	10-3-16	14:45	-1.7	_	NO Flow	N
ST-1	Seneca	Yoast	10-3-16	17:10	-2.4	)	No Flow	N

CLIMATIC CONDITIONS:

FIELD PERSONNEL: JH	FIELD PERSONNEL SIGNATURE:
NOTES	
1	
*	

