Documents responsive to the April 1, 2011, request from Chairman Hastings for documents related to the Office of Surface Mining, Stream Buffer Zone Rule

Volume: 00027094_Hastings_004

	Document Name	Pages	Document Date	Document Type	Document Title	Request1	Request3
1	OSM-WDC-B01-00005-000001	51	xxxxxxxx	ANL	Consolidated Comments on the Draft SPR EIS (Chapter 2) and proposed dispositions	☑	☐
2	OSM-WDC-B01-00005-000002	204	xxxxxxxx	ANL	Consolidated Comments on the Draft SPR EIS (Chapter 3) and proposed dispositions	☑	☐
3	OSM-WDC-B01-00005-000003	222	XXXXXXXX	ANL	Consolidated Comments on the Draft SPR EIS (Chapter 4) and proposed dispositions	☑	☐
4	OSM-WDC-B09-00001-000003	16	XXXXXXXX	OTH	Updated Chart of those individuals who received all or in part OSM's draft EIS	☐	☑

Total Pages: 493

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			1 until 2.5) are completely confusing. dd		
2.1	2-1	4-20	The entire Introduction is hard to follow. At a minimum, they need to list the 11 elements early on to help provide some degree of clarity. The constant reference to "Elements" in this section and throughout without defining what the elements are is completely confusing. dd	Yes	Description of Elements as defined by NOI will be included in the Introduction. Use "elements" for aspects of the rule, "options" for possible ways to address each element, and "alternatives" only to describe the full suite alternatives to be analyzed.
2.1	2-1	8-14	The second paragraph of the introduction was confusing. Please revise this paragraph to be clear and concise. If I understand it correctly, it should say: "This EIS identifies and describes the alternatives for analysis in two ways. First, this EIS summarizes the Options for each Principal Element analyzed. In this summary, OSM lists the Options within each Element from most to least protective (or most to least inclusive). Second, the EIS compiles and summarizes alternatives that include an option for each of the principal elements, in order to formulate a reasonable number and range of Alternatives for the rulemaking. OSM analyzes the impacts of these Alternatives, including the No Action Alternative, in subsequent chapters of this EIS."		
2.1	2-1	8-11	"Principal Element" is now capitalized (was not in Chapter 1) and appears to have extreme importance to the entire approach that OSM is taking with respect to stream protection. The 11 "Principal Elements" need to be re-identified and possibly provide a definition (as in Chapter 1). Would also recommend either removing the 'capitalization' of this term in Chapter 2, or modify this term as such in Chapter 1 for consistency and importance purposes. –		Make sure the capitalization of principal element is consistent in all chapters
2.1	2-1	9-10	The term "Principal Element" is used without being defined. No definition is provided in Chapter 1, and clarification in Chapter 2 is not provided until page 2-5. The apparent assumption is that the reader is familiar with the meaning of "Element," and perhaps that should be true, if all previous documents have been read. However, for the purposes of clarity, a brief definition of "Element" and/or "Principal Element" should be		Define Principal Element

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			provided.		
2.1	2-1	6-7	"*These provisions do not....*" – I have no idea what this sentence is trying to get at. dd	Yes	Replace 'several provisions' with 'requirements and performance standards'
2.1	2-1	8-9	There appears to be a word(s) or punctuation missing. As written, the sentence does not make sense. dd	yes	Revise sentence – "This EIS develops a range of alternatives for each Element. The range of alternatives includes the No Action alternative and four other alternatives that represent a hierarchical range of proposed stream protection measures. The ranges of alternatives for each element are then used to create logical groupings that represent a range of hierarchical Full Suite Alternatives that be analyzed."
2.2	2-1	27-28	There are no current regulations that only affect coal mining operations in the Appalachian region. All OSM regulations apply nationwide. kg	Yes	Strike last sentence – "Initially, OSM limited the scope...."
2.2	2-1	26-27	No mention anywhere in this document of surface effects of underground mining. kg		Insert - "...might be adversely affected by surface coal mining and the surface effects of underground mining activities." John ???
2.1	2-1	6	The statement "These provisions do not necessarily depend or relate ..." is confounding language. The effort has been described as holistic and supports protection of streams.		Elements related but may be chosen independently
2.2.1	2-1	31	Also, OSM met with the State Regulatory authorities.		Please include
2.2.1	2-1	31	I do not believe this section accurately portrays the outreach or Information Sessions. The outreach pretty much presented the proposed elements and encouraged discourse on those elements.		Add language "several"
"	"2-2	21-22	SB "and recommended expanding the regulatory provisions to be addressed"		
2.2.2	2-2	3	Delete "and authorities". [Agencies do not coordinate		

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			authorities.]		
"	"2-2	4	Please use the full date of the MOU -- June 11, 2009.		
2.2.2	2-2	6	We should provide a citation for the MOU and include it in ref. bl	Yes	Include reference for the MOU in text. Included in Appendix.
2.2.2	2-2	8	Develop "improved' regulatory actions.		Add "improved"
2.2.2	2-2	9	Missing word – "... provided OSM with an opportunity to discuss..." dd	Yes	Insert "to" as per comment
2.2.3	2-2	13	Nov 2009 – should be advanced notice of proposed rulemaking not NOI.		Revise to say ANPR
2.2.3	"2-2	15	SB "supplemental environmental impact statement"		
2.2.3	2-2	20	How many is many - a breakdown of the broad comment categories would be useful or if covered elsewhere in the EIS, reference that section. Seems that many of the comments also proposed that the mountaintop issues be dealt with regionally. bl	Yes	Insert - The complete compilation of submitted comments are contained in Appendix (?). Last sentence of paragraph.
2.2.4	2-2	26	*Affecting* not *Affection*. Yes revise language to "...*other regulations related to stream protection and...*"		"affecting"
"	"2-2	30	SB "and requested public comment on the scope of the EIS to be prepared."		
2.2.5	2-2	40	Highlight (Bold) "Alternatives" since this is apparently a section in Chapter Two that will be addressed (it was capitalized)		Be consistent
2.3.1	"2-3	11-26	Heading SB: Development and Description of Alternatives. The description of the "cafeteria approach" is jarringly schmaltzy and unprofessional, and not appropriate for a serious government document. The description is an over-extended and unnecessarily folksy analogy. Please rewrite as follows: "In this Chapter, OSM describes eleven Principal Elements for the proposed federal action. In large part, these elements reflect the elements for the federal action and alternatives that were outlined in the April and June NOIs. Most of the Elements, while related to stream protection, do not depend on each other for implementation. For example, a regulatory change that would require collection of baseline data monthly for a specified time has no bearing on whether the regulations also require revegetation with native species. [The remainder		

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			of this paragraph is unclear. Did you intend to say:] Thus, because the Elements considered for the Proposed Action are to some extent disjunctive, OSM first describes in section 2.4 the principal elements that are to be addressed in the alternatives, including 5 options for each element. Then, in section 2.5 OSM describes the five alternative to be fully analyzed, including one option from each element. We describe in sections 2.6 and 2.7 the alternatives that were considered but not further analyzed."		
2.3.2	2-3	30-36	These lines are unclear and unnecessarily wordy. Please revise as follows: "OSM has developed a list of eleven principal elements to be fully analyzed in this EIS. However, some of the principal elements that OSM anticipates including in a proposed Stream Protection rule are. . ."		
2.3.1	2-3	21-25	Because the statement that "none of the selections necessarily demands another" is not accurate for all alternatives described for the elements, the terms "element alternatives", "full suite alternatives" and the "proposed action" would be less confusing than the cafeteria example. For example, alternatives 2 – 5 for Monitoring During Mining and Reclamation (Element 6) all refer to baseline sampling (Element 2).		
2.2.6	2-3	3-6	SB "These discussions among agency experts from all regions took into account comments from other agencies and the public. OSM believes the Alternatives described in this Chapter best represent . . . the need and purpose for OSM's'"		
"	"2-3	8	SB "in its analysis, and that meet the need and purpose for OSM's action."		
2.3.1	2-3	13	Needs to be consistent with numbers – here "eleven" is spelled out, but in 2.2.4, they used "11". dd	Yes	Review document for consistency of number (text versus numeric).
2.2.6	2-3	7 & 8	This sentence about inviting public comment in a section titled "Internal Review" seems misplaced. pe	Yes	Strike last sentence of this paragraph.
2.3	2-3 to 2-4		The discussion of elements and alternatives is confusing. In addition, it appears that there are two applications of the term "alternatives." One type of alternative (lower case) appears to		Make sure capitalization is consistent and the concept of "Element" or "Principal Element"

Comment Form

Title of Document	**Chapter 2 –SPR DEIS**
Contact Information	
Name	**John Craynon (EIS Team)**
Telephone Number	**202-208-2866**
Email	**jcraynon@osmre.gov**

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
TOC	I	37	*correct capitalization*		
2			Cites to federal statute or regulations should be provided throughout the document, particularly with regard to the no action alternative where reference to unspecified cites causes the reviewer to guess at what the OSM proposes to change..		Provide citations
Entire Ch. 2			Using the term "alternative" to refer to both the sub-alternatives for each element and to the 5 Action/No Action alternatives is too confusing to the reader. It makes it difficult for the reader to understand the references and distinguish accurately between the two categories. And it leads to use of clumsy terms like "full-suite alternatives." Instead, please refer to the sub-alternatives for each element as either "sub-elements" or "options." I recommend referring to them as options, since that's a shorter word. And please refer to the 5 Action/No Action alternatives as just "Alternatives."		
Entire Ch. 2			Revise references to "material damage" to refer to "material damage to the hydrologic balance". This is necessary because OSM's regulations include another definition of "material damage", for different purposes, as well as a definition of "materially damage . . ."		
General			Throughout the document, they use acronyms without first spelling them out (e.g. EIS, OSM, SMCRA, etc.). Once a term is defined and assigned an acronym – stick to it!	YES	Review document for consistent use of Acronyms.
General			Throughout the document, they capitalize words/phrases that do not need to be capitalized.	YES	Review document for consistencies in capitalization.
General			The document lacks organization, clarity, and purpose. The initial discussions of the elements and alternatives (Sections 2-		Some specific comments below.

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			be within an Element, while another type of Alternative (upper case) is comprised of lower case alternatives and Elements. Yes this will make more sense further into the document, but it is confusing when presented in this section.		is defined and clearly presented.
2.3.2.2	*2-4*	*26-38*	SB: "After describing the options for each element, OSM grouped them into alternatives. . . Alternative 1, the No Action Alternative, includes the no action option for each Element. Alternative 2 includes the most protective option for each element; . . . the next most protective option for each element. . . ." [No new paragraph] The analysis of impacts in subsequent chapters of this EIS addresses the impacts of Alternative 1, Alternative 2, and so on. [No new paragraph] We invite the public to comment. . . ."		
2.3.2	2-4	1-10	We should rethink the conclusion that the proposed changes in performance bonds/financial assurances are examples of administrative activity that do not have an identifiable impact on the environment and therefore don't need a detailed analysis in the EIS. This downplays the impact the additional costs or even the potential availability of bonds will have on the rate of firm failure. Even if the requirements only apply to new permits the inability to obtain bonds or fully fund trusts may result in existing firms with current reclamation liabilities going out of business. Many state programs do not have adequate bonds for those liabilities. Therefore, the alternatives considered for how (and how quickly) OSM establishes financial assurances (up front, trusts, pools, escrows, separate bonds etc) each deserve a full EIS analysis.	Yes	I agree with this comment. This analysis is critical for the EIS.
2.3.2.1	2-4	12-20	The first paragraph under this section is wordy and unclear, as well as largely redundant of earlier discussion in this chapter. At the very least, please revise as follows: "OSM identified a range of feasible and reasonable options for each element. OSM then organized the options from most to least environmentally protective (or most inclusive to least inclusive), and selected the most protective, least protective, and two other options that fell in between to take forward for analysis. OSM then combined these options for each element, along with the No Action option for each element, to develop the range of alternatives being analyzed below. For each element, the option included in OSM's preferred alternative,	(	Use suggested language as it is preferred.

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			below, is identified. "		
2.3.2	2-4	3-8	UDOGM disagrees that there will be no "identifiable impact on the environment" caused by OSM's decision to remove the element addressing "Financial Assurance for Long Term Discharges of Parameters of Concern." UDOGM believes OSM should move forward with rulemaking to address Financial Assurances for Long-Term Discharges of Pollutants (Principle Element #10 from the NOIs), and that these elements should be addressed in this EIS. The text at Section 2.3.2 of the draft Chapter 2 suggests that there is uncertainty as to whether OSM will address financial assurance for long-term discharges of pollutants in the contemplated rulemaking. Stating that "the Performance Bonds and Financial Assurance elements" are "risk-reducing activities" and have no "identifiable impact on the environment" is missing the basic need for this element to be included in the rulemaking. By not providing the regulatory authorities a frame-work or tool to compel Operators to provide the financial assurance to cover potential long-term costs incurred from treating post-mining discharge contamination, the probability of environmental damage is raised significantly. If an Operator decides to "walk away" from a site with perpetual discharge contamination, and the bonding is inadequate to cover in perpetuity treatment costs, either tax payers will incur the costs or (given the current economic conditions of most states in this country), it is entirely possible that treatment of the contaminated discharge could cease, causing a direct and immediate impact to the environment.		Page 2 through 4 lines 1 through 10 needs to be clarified.... The ambiguity of this section is a reoccurring comment.

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"	"2-4	8-10	SB: "Therefore, they are not included as specific elements of the alternatives that are fully analyzed. Rather, these principal elements are described in Section 2.6."		
2.3.2.2	2-4	28-30	The last sentence in this paragraph leads the reader to a conclusion that Alt. 5, OSM's proposed alternative, would be the least environmentally protective of the alternatives. Is our proposed action the least environmentally protective? If not, this characterization of alternatives should be changed.	Yes (Duplicate)	See Marcelo Comment
2.3.2	2-4	1-2	SB: "place financial responsibility for compliance with performance standards, reclamation requirements, and other regulatory requirements on the mine operator rather than on the regulatory authority . . ."		
2.3.2.1	2-4	12	The use of "element "or "Element" and" Principal Element" is inconsistent. Same comment for "Alternative" and "alternative"		Make consistent
2.3.2.1	2-4	22	SB: "a reasonable range of alternatives that are feasible, . . ."		
"	2-4	24	SB: "whether the options identified for each element should . . " "		
2.3.2.2	2-4	28	Should read ....includes the no action alternative...		
2.3.2.2	2-4	32	...alternatives		
2.4.2	2-5	34 -35	"Sampling over a 24 month period for a full suite of chemicals; continuous flow measurements; and documentation of sediment, meteorology, stream form and function" is excessive. The list of what constitutes a full suite of chemicals should be clarified. Continuous flow measurements are impractical and not necessary to document the stream conditions. Under CWA 404 permitting neither the CORPS nor EPA requires this much data. The goal under SMCRA and CWA is to minimize disturbance, i.e. make the footprints smaller if possible. A permittee who proposes a smaller mining operation will not be able to economically permit the smaller site. This alternative promotes larger operations with more impacts rather than minimization. The increased regulatory staff time required to review this huge increase in data must be considered as well. Is enough value added to the process to justify the expense to the permittee and to the additional resources needed by the regulatory authority.		Provide full listing

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2.4	2-5	3-4	Needs edited for clarity. Sentence doesn't make sense "...components of the Proposed Action, the stream Protection Rule." kg	Yes	Strike first sentence of this paragraph. Insert – "OSM's 11 Principal Elements were initially published..."
2.4	2-5	3	The 11 Principal Elements have yet to be defined or listed in Chapter 2 at this point?		There has been several comments on the definition and concept of elements and the descriptions of elements. The current description is not clear as there has been many comments.
2.4	2-5	13	SB: "Alternative #1 (No Action)"		Put "(no action)" after ddd
2.4	2-5	17	Missing closing ")"kg & dd	Yes	Close parenthesis per comment.
2.4.1	2-5"	21	SB: ". . . under consideration include options. .. "		
"	2-5	23	At end of line, insert "(No Action)"		
2.3.1 – 2.3.2	2-3 throu gh 2-4	30, etc	Inconsistency with representation (capital vs. non-capitalization) and use) of the words "Principal Elements", "elements " and "alternatives". Hopefully this will be clarified in final version.		
"	2-5	33	At end of line, insert "(No Action)"		
2.4.2	2-5	35	Meterology seems too broad, do we mean precipitation, cloud cover, wind direction, and barometric pressures would seem irrelevant. bl	Yes	Strike '~~meteorology~~' replace with 'precipitation'.
2.4.4	2-6	24-38	The description of this element and its options should be revised to refer to surface mining activities, and surface activities as appropriate [not more generally to mining or mining-related activities]		
2.4.2	2-5 – 2-6	32+	Will the document later address the difference (or intended requirements) for "limited", "full" and "similar" suite of chemicals?		
2.4.2	2-5; 2-6	34-36; 1-7	Include the sampling interval here, as it is in Section 2.5.		
2.4.2	2-6	5-7	The proposed rule requires baseline documentation on all stream types. dd	Yes	Insert ephemeral streams per comment.
2.4.4	2-6	31-33	This bullet point does not fit the 2.4.4 Element. It does	Yes	This needs work.....must be

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			however as an alternative fit the 2.4.2 Baseline Data Element. This is actually the baseline data collection criteria for Alt #2 not the requirements in Alt #3 for activities in or near streams.		revised
2.4.2	2-6	3-4	I don't know what is included in collection of data consistent with CWA protocols.....		reword
2.4.4	2-6	27-28	This summary of the No Action option for activities in or near streams is inaccurate and misleading—unacceptable, even in this part of the EIS. This is a highly controversial subject. The EIS should provide accurate summary of No Action option, including basics of 780.28 and 816.57.		
2.4.2	2-6	5-6	The proposed rule does NOT require continuous flow monitoring. dd	Yes	Strike '~~continuous~~' per comment
2.4	2-6	1	"...for similar suite..." Similar to what? The above bullet or similar to a reference stream?		
2.4.2	2-6	3	Makes reference to collection of data consistent with the "Stream Protection Rule". This IS the stream protection rule EIS. Why would this be included as it would appear to presuppose purpose of doing the EIS alternative review. pe	Yes	Strike '...,~~the Stream Protection Rule~~,.." per comment.
2.4.2	2-6	6	The proposed rule does NOT require a documentation of meteorology. It does require precipitation which is what I think they are trying to say. They need to just say documentation or measurement of precipitation. dd	Yes	Strike 'meteorology' replace with 'precipitation'.
2.4.3	2-6	13	Be consistent on wording for the alternatives: Suggest..."Alternatives under consideration include:"	Yes	This wording is inconsistent across alternatives. Select one form and use consistently across alternatives. There is no need for variations of this sentence.
2.4.3	2-6	14	Insert OSM after Current.		Please add
2.4.3	2-6	19	"Defining "material damage" as an unabatable impairment of a stream" Should clarify that this means cannot be repaired or restored effluent violations are unabatable as the discharge has occurred and the pollution has entered the stream. The discharge can be stopped or treated to bring the discharge into compliance but the pollutant remains in the stream.		Reword?
2.4.3	2-6	22	The statement in this section stops short of the discussion in Section 2.5.5.3. This section indicates material damage will be defined as a measurable adverse impact on water quality or quantity. Section 2.5.5.3 indicates material damage will		This needs clarification and sections need to be consistent

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			occur when the mining operation has affected the quality or quantity of the water so that the water body could no longer be used for its designated use. We support the use consideration and suggest revising Section 2.4.3 to make clear the intent of a measurable adverse impact on the quantity or quality of the water so that the water body could no longer be used for its designated use.		
2.4.3	2-6	23	The proposed definition of material damage does not explicitly state only intermittent or perennial.	Yes	Insert "...in an ephemeral, intermittent or perennial stream." Need to add groundwater material damage to the alternative.
2.4.4	2-6	27	Add – "The current regulations prohibit mining activities ..." Current regs state " avoidance is not reasonably possible" Remove the a before fill, we mean the 404 definition of fill here – I think? Should be with an allowance for the placement of fill, we mean the 404 definition of fill here also? pe bl	Yes	Strike " ~~A Prohibition on~~..." Insert - "The current regulations prohibit..." Strike "...~~a fill~~..." and replace with "...fill..."
2.4.4	2-6	35	Should read "...unless the regulatory authority..." kg	Yes	Insert 'authority 'per comment
2.4.4 and 2.4.5	2-6, 2-7		There appears to be a significant overlap between Sections 2.4.4 and 2.4.5, as described. This suggests that there is not a clear understanding of the difference between the two categories. Please clarify the subjects of these two sections, so that the reader readily understands what each discusses, and how they are, in fact, different. [I'm not yet convinced that they are different for purposes of SMCRA—it appears that 2.4.5 is just a subset of 2.4.4. If that's true, we should acknowledge it. If it's not true, we need an explanation of why/how.]		Ensure fills v. mine through language is clear and separate One is Activities in or Near Streams and the other is mine throughs
2.4.6	2-7	general	Several of the options don't require monitoring until restoration is accomplished. Without monitoring, how will the permittee demonstrate that restoration was effective in restoring form and function or that mining and reclamation didn't cause elevated parameters?	Yes	Wording changes.....monitoring through stabilized quality and quantity
2.4.7	2-7	35-37	The first sentence is unclear—what did you intend to say? Was it: "This element would require the setting of corrective		

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			action thresholds for parameters related to potential material damage to the hydrologic balance. If monitoring data establish that stream conditions meet one or more corrective action thresholds for key parameters, the operator would be required to take the required corrective action. Options for this element include: . . . "		
	2-7	29-31	This description seems somewhat unclear, since some definitions of material damage would invoke chemical, biological and yes other parameters.		true
2.4.5	2-7	4-6	The language of this first bullet seems to have no bearing on a decision as to whether mining through a stream would be allowed. The current statement is more reflective of stream reclamation requirements and not a decision as to whether one can mine through a stream or not.	Yes (duplicate)	See above and MCR Comment
2.4.5	2-7	4	Is this the No Action Alternative? If so, identify it as such, in parentheses.		
2.4.5	2-7	7	Change the word "fill" to spoil since either excess spoil (as in a fill) or general spoil can be used to backfill the area of a mined through stream		
2.4.5	2-7	7	Bullet #2 "fills" is not a "mining through" Element, it is more correctly reflects a 2.4.4 Element "Activities In or Near Streams". pe & dd	Yes	First bullet Insert – "Allows mining through stream and requires…" Second bullet Insert – "A prohibition of all mining through streams or within 100 feet of stream."
2.4.5	2-7	8	Bullet #3 includes the words "activities near". As activities near streams IS NOT "Mining Through Streams" it should not be include in this Element . pe	Yes	Inisert- "Allowance of mining through streams…" Delete – "…~~activities near or…~~"
2.4.5	2-7	9	Need to add "only" in front of if		
2.4.6	2-7	13	SB: "This Element addresses requirements for ongoing monitoring to identify . . ."		

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2.4.6	2-7	17	Clarify that this is current regulation as in previous sections		
2.4.6	2-7	21	Add…; quarterly basis,…	Yes	Add – "…sampling on a quarterly basis…"
2.5.6	2-7	26	~~Similar to 2nd~~ replace with *Include requirements of 2nd*. "~~Slightly more limited~~" is too ambiguous. Need to define 'full suite"		Remove "slightly"
2.4.6	2-7	29	Not sure which parameters would be related to material damage and which would not. Is it not conceivable that any parameter, if exceeded, could lead to material damage—particularly if narrative WQ st'ds. are the threshold.	Yes	Reword to read "…monitoring would be for site-specific parameters of concern related to …"
2.4.7	2-7	35	Word should be "require" not "required"		
2.4.7	2-7	36	The phrase "adverse parameters" is unclear. It is assumed that we are talking about parameters that exceed corrective action thresholds. This should be revised for clarity.	Yes	Strike ~~"adverse parameters"~~ Insert – "…exceed corrective action thresholds…"
2.4.7	2-7	38	Should read "Current regulations do not require…" kg	Yes	Apply changes per comment
2.4.8	2-8	General	Mixing options for backfill and fills in one section seems complicated. While there is certainly a relationship between backfilling the mine site and the necessity for creating fills when there is excess spoil, the options for configuration could be split—i.e., have separate options for backfills and fills. Throwing in the 2nd "prohibition of fill" bullet seems incongruent, particularly since it is already an option in 2.4.4 and 2.4.5. If fills are allowed, wouldn't the most-restrictive option be something like limiting their size or precluding them but in ephemeral streams?	Yes	This alternative should include configuration. Insert – "Meet AOC requirements and ban all excess fill placement….".
"	2-8	1-12	I do not understand how these four bullet points describe distinct, different alternatives.		
2.4.8	2-8	29-33	In line 30 it says "elevations could not exceed pre-mining elevations" and in line 33 it says "pre-mining elevations would be exceeded." These two statements seem to be at odds with one another.	Yes	This language needs to be clarified.
2.4.8	2-8	24-26	Change language to read: "Backfilling to AOC would include tolerance limits of +-15%~~ or the 50 foot rule~~ difference from premining topography ; (*eliminate the words "or the 50 foot rule" as this is not considered a viable option across the nation and is not in the draft product*);		

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2.4.8	2-8	31-33	SB: ". . . Instead, in certain circumstances [What circumstances?] AOC requirements allow backfilling to exceed pre-mining elevations. Regulatory authorities . . ."		
2.4.7	2-8	1	2nd bullet--What is the authority in SMCRA to consider impacts from anything other than mining? Isn't that a CWA obligation under anti-deg. and/or TMDL?	Yes	Add language to detail "may require change to SMCRA"
2.4.7	2-8	4	Interim?		Delete "interim"
2.4.7	2-8	4	3rd bullet—Not sure why or how an operator would develop a "programmatic" action plan. Should this option be clarified to state that, if the interim corrective action was effective, the permit must be modified to incorporate the successful measures into the MRP or HRP?	Yes	Strike – "...~~programmatic or~~..."
2.4.7	2-8	5	Identify adverse trends		
"	2-8	6	How could an operator develop a "programmatic" corrective action plan? If this is possible, then what is a "programmatic" corrective action plan?		
2.4.7	2-8	11	Should read ...prior to reaching material damage...		
2.4.8	2-8	13	This title should include AOC and there is no discussion in alternatives regarding quantitative analysis of AOC compliance.		
2.4.8	2-8	14	Suggest rephrasing: "Under this Element, OSM is considering alternatives for backfilling and grading configuration of the mined area and fills placed in or near streams."	Yes(duplicate)	See MCR & Marcelo Comment
2.4.8	2-8	15	Change the word "dealing" to" handling" as more appropriate		
2.4.8	2-8	15	Add "with" after dealing.		
2.4.8	2-8	15	A word seems to be missing; "dealing with fill material. If the intent is "excess" fills, that word should perhaps to added also. pe	Yes	Insert –"...dealing with fill material.." per comment Insert -"...for dealing with fill materials including excess spoil and coal mine waste..." See AR Comment
2.4.8	2-8	16	Why discuss what the current rule is not? Landforming is		

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			mentioned but not defined.		
2.4.8	2-8	17	AOC is used as an abbreviation but is not spelled out until 2.4.9. kg	Yes	Insert "Approximate Original Contour (AOC).." per comment. Correct all others following
2.4.8	2-8	22	Remove excess. Fill does not always have to be excess. bl	Yes	Strike "~~excess~~" per comment May need extra words to discuss surface configuration.
2.4.8	2-8	25	Strike all reference to the "50-foot rule" kg	Yes	Establish numeric criteria. Accept comment
2.4.8	2-8	26	Should read "...restore topographic landforms and/or reduce the volume of excess spoil generated." kg	Yes	Apply change per comment except not 'generated'.
2.4.8	2-8	27	How is this different from current rule?		
2.4.8	2-8	29	Remove the words "or 50 foot rule (see above) and add the word" tolerance" after 15%		
2.4.9	2-8	36	SB: "SMCRA sets the requirements for restoring the mined area to the Approximate. . . "		
2.4.9	2-8	37	SB: ". . . requirements. . ."		
2.4.9	2-8	38	SB: " . . . The alternatives include: "		
2.4.8	2-8	40	After the word "courses," insert the phrase ""located below the lowest coal seam mined." This would make the language comport with current regulations.	Yes	Apply change per comment
2.4.9	2-8	41	SB: ". . . allowed for certain steep-slope mining. . . "	Incorporate (Yes/No)	Proposed Disposition
2.4.8	2-8	25 – 26	I am not certain that the "+/- 15% or 50-foot rule" is explained sufficiently to warrant meaningful commentary. This actually should be referred to as a "concept" not a rule. OK, elevations may exceed pre-mining elevations, may they be less than pre-mining elevations? If you are talking about "removing" mountains, reduction in elevations would seem to me to be more of a concern. pe	Yes	See Previous comment on this issue Will ensure consistency with the rule.
2.4.9	2-8 and 9	1	The language of the 1st bullet is not precise and may be misleading, compared to SMCRA §515e(1) and (e)(3), which say "provided that the watershed control of the area is improved" and "watershed of the affected land is deemed to be improved" Suggest rephrasing to "provided the watershed	Yes	Apply change per comment

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			control and conditions will be improved over pre-mining conditions"		
2.4.10	2-9	24-27	Forested before mining or the 5 year prior to mining are one in the same. Do we mean previously forested areas cleared five years prior to mining? bl	Yes	Insert – "...if the area was forested 5 years prior to submittal of permit application."
2.4.10	2-9	22-23	"..establishes ~~a~~ bonding requirements that are triggered..."		
2.4.10	2-9	33-34	I do not believe this is a correct statement based on the most recent copy of the draft rule. Same as above on the "forested before mining" issue	Yes	Insert – "...if the area was forested 5 years prior to submittal of permit application." Ensure equivalent with rule language.
2.4.10	2-9	31-32	Under SMCRA bond release cannot occur prior to year 5 or 10 of the extended liability period (after the last seeding, planting or augmentative practice) depending on the precipitation regime. It is unclear how bond release can occur after the third growing season. This should be revised to comport with SMCRA.	Yes	Need to change this to make consistent with SMCRA.
2.4.9	2-9	3	I thought we were specifically going to exclude options that required statutory changes. As the Act specifically allow variances (exemptions) a prohibition would require an act of Congress. pe	Yes	This alternative is feasible and is included as the most protective alternative. Note that SMCRA change would be necessary
2.4.9	2-9	3	CEQ NEPA guidelines state that EISs can recommend alternatives that would require Congressional action, but should we propose an option inconsistent with SMCRA? If so, shouldn't this be clear that Element 2.4.9 AOC variances (MTR and steep slope variances) are limited to steep slopes? Assuming that variances are allowed by SMCRA, would the most-protective option be tightening the demonstration by the applicant and confirmation by the RA that the	Yes	This comment is addressed by adding statutory change language.
2.4.9	2-9	11	Needs to be made clear what "financial assurances" means in this context. In SMCRA terms, "financial assurances" typically means bonding. I believe in this context though, it is intended to mean specific documentation from outside parties who may be involved in the proposed PMLU (land developer, local governments, utilities, etc). kg	Yes	Strike "...and backed by ~~financial assurance."~~ Replace with – "...feasible, achievable and financially supported."

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2.4.9	2-9	12	Suggest rephrasing: "OSM would propose general criteria for regulatory authorities in steep slope SMCRA primacy states to establish the specific terms and conditions under which exceptions from AOC requirements would be allowed--based on regional conditions, regulations and land use considerations;"	Yes	Apply change per comment
2.4.9	2-9	14	Add "authority" after regulatory		
2.4.9	2-9	22	Should read ...establishes bonding requirements... (delete "a")		
2.4.9	2-9	23	SB: ". . . hardwood trees are.. ."		
2.4.10	2-9	29	Suggest:" Adopts the Bureau of Land Management concept of Reclaimed Desired Plant Community (RDPC), wherein the mining operator selects existing vegetation types around the mine site to represent the varied RDPC."	Yes	Apply change per comment
2.4.11	2-9	36	This sentence should clearly identify that these are enhancements required due to adverse impacts to streams. This alternative describes the ways that these resources are to be protected and enhanced when mining activities result in adverse impacts to streams.		
2.4.11	2-9	36	SB: "This Element describes ways that fish and wildlife resources. . . "		
2.5	2-10	20-26	If this paragraph is intended to discuss the purposes for which OSM is evaluating the alternatives, the paragraph should be revised and expanded to read: "The following Alternatives, with the exception of the No Action Alternative, are potential revisions to regulations. The alternatives would provide varying degrees of restriction and protection. OSM is evaluating these Alternatives in this DEIS in order to evaluate the environmental impacts of the preferred alternative and the other alternatives in comparative form, to provide a clear basis for choice among the options available to OSM. This evaluation is intended to consider, inter alia, the extent to which each Alternative will increase environmental protection within the coal producing regions of the U.S. and the economic and social costs each Alternative will place on the public and the industry. This evaluation is intended to devote substantial treatment to each alternative evaluated in		

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			detail, so that reviewers may evaluate the comparative merits of the alternatives. OSM is also evaluating these alternatives to determine any adverse environmental effects that cannot be avoided. Further, OSM is evaluating these alternatives to consider the relationship between local short-term uses of the human environment and the maintenance and enhancement of long-term productivity. Likewise, this evaluation is intended to address any irreversible or irretrievable commitments of resources that would be involved in implementation of the preferred alternatives. "		
2.5.1	2-10	28-31	This paragraph is incorrect. It should be revised to read: "Alternative # 1 describes current regulations implementing SMCRA, concerning each of the listed Elements. It is identified as the No Action Alternative because, If OSM does not take final action on the proposed federal action, these existing regulatory provisions would continue to apply."		
2.5.1.1	2-10	33-35	West Virginia already has a stream delineation policy to determine the point of the intermittent/ephemeral point that incorporates some biological information.		Add "OSM" to sentence to clarify that referring to OSM regs and NOT state regs
2.4.11	2-10	9-10	Here, ephemeral streams should be specifically stated as not having "enhancement requirements".		
2.5	2-10	18-19	Heading should be: "DISCUSSION OF ALTERNATIVES EVALUATED"		
2.4.11	2-10	1	with enhancement		
2.4.11	2-10	1	SB: ". . . Mining activities must not jeopardize . . ."		
2.4.11	2-10	1	Change to "... jeopardize the continued existence of endangered ..." bl	Yes	Apply changes per comment
2.4.11	2-10	3	... select plant material ..." I'm not sure what this means. Are we saying "plants selected for revegetation"? pe	Yes	Strike "...select ~~plant material~~..." Insert – "...select suitable revegetation plant species based on habitat value to fish and wildlife;"
2.4.11	2-10	5	Bullet point should begin: "Establish additional . . ."		
2.4.11	2-10	13	To be consistent with the other alternatives in this element, shouldn't this 4th bullet describe where the enhancement	Yes	Insert – "Enhancement activities could occur in the same

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			activities will occur (i.e., on or off mine; in or out of watershed, etc.)		watershed, on the permitted area, a different watershed, or a CWA, mitigation project off the permit area;"
2.5	2-10	24	...of the U.S.,		
2.5.1	2-10	27	Header SB: "Alternative #1 – No Action Alternative"		
2.5.1.1	2-10	33	This line should begin: "The current regulations' definitions . . ."		
2.5.1	2-10	34	Based on hydro and watershed area (intermittent) bl	Yes	Insert – "...and watershed size
2.5.1.2	2-11	13-19	Add seasonal variation phrase to GW baseline collection, similar to line 21		
2.5.1.2	2-11	13	Add "data" after "submit"		
2.5.1.2	2-11	15	Current regulations also require seasonal quality and quantity information.	Yes	Insert – "..., the quality and quantity of groundwater sufficient to demonstrate seasonal variation and water usage."
2.5.1.2	2-11	17	Should be "quantity" not "quality"		
2.5.1.2	2-11	19	Delete ")". dd	Yes	Apply change per comment
2.5.1.2	2-11	25	Should be "quantity" not "quality"		
2.5.1.2	2-11	26	Geologic should be a new subsection. Consistent with others.		
2.5.1.2	2-11	32	"This requirement includes a chemical ~~analyses~~ analysis of the coal..."		
2.5.1.2	2-11	35	Need to add "if sufficient data exists to documentation if it is not needed."		
2.5.1.2	2-11	36	The statement that no specific data collection or analysis of biologic resources is somewhat imprecise. 30 CFR §779.11 requires a description of the environmental resources to be affected or impacted and §780.16(a) requires fish & wildlife information—particularly for special species (T&E, other protected) and special/high value habitat. Suggest paraphrasing, but then concluding that no specific requirement to collect macroinvertebrate data from streams or to do F&W	Yes	Insert – "Biological requirements pursuant to 30 CFR§779.11"

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			census.		
2.5.1.2	2-11	38	Add "to the hydrologic balance" after material damage		
2.5.1.3	2-11	38	West Virginia already has a definition of material damage.		Add "OSM" to sentence to clarify that referring to OSM regs and NOT state regs
2.5.1.7	2-12	33-35	Current regulations require compliance with all applicable state and Fed water quality laws and regulations. dd	Yes	"... with permit a conditions or Federal, State or Tribal water quality laws and regulations, the permitee must..."
2.5.1.4	2-12	10-11	BTCA isn't in the acronym list, though it is defined here		
2.5.1.6	2-12	27-28	"...or flow [and TSS] for surface water."		
2.5.1.3	2-12	2	At the end of the sentence, give the Fed. Reg. cite for the preamble passage referenced.		
2.5.1.4	2-12	6	SB: ". . . to conduct surface mining. . ."		
2.5.1.4	2-12	9	...that_ avoiding		
2.5.1.4	2-12	11	Should read...(BTCA) not (BCTA)		
2.5.1.4	2-12	12	SB: ". . . for minimizing disturbances and adverse impacts. .."		
2.5.1.4	2-12	13	SB: ". . . possible. In addition, for construction in or near a perennial or intermittent stream, of an excess spoil fill under 30 CFR 780.35 or a coal mine waste disposal facility under 30 CFR 780.25, a permit applicant must: avoid such placement to the extent possible; explain why an alternative that would not be in the stream is not possible; identify a range of alternatives of varying size, location, and configuration; and analyze the impacts of the alternatives. The buffer requirements for"		
2.5.1.4	2-12	15	SB: ". . . or intermittent stream, to stream diversions, bridge abutments, culverts, or other structures in or near streams, construction of sedimentation pond embankments in a perennial or intermittent stream, or certain coal preparation plants."		
2.5.1.5	2-12	17	SB: "Under 30 CFR 816.43, all permanent . . ."		

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2.5.1.5	2-12	18	The current regs do not require natural channel techniques bl	No	816.43 (b)(4) Diversions states intermittent and perennial stream channels restored after the completion of mining must be designed and constructed using natural channel stream design techniques.
2.5.1.6	2-12	24	Should be "quantity and quality", not just "quality", as the current regulations require that monitoring programs identify monitoring parameters for both quality and quantity of surface water and groundwater based on the PHC.		
2.5.1.6	2-12	24	At end of line, insert: "30 CFR 780.21(i) and (j) and 816.41(c) and (e)."		
2.5.1.6	2-12	27	Add "volumetric" in front of "flow"		
2.5.1.6	2-12	27	"are pH, [total] Fe, [total] Mn, and TDS..."		
2.5.1.6	2-12	27	Current regulations also require TSS for streams.	Yes	Per comment include TSS as it is a minimum requirement for surface water monitoring.
2.5.1.6	2-12	30	The NPDES sampling frequency is different than SMCRA and should be stated. dd	Yes	Strike sentence – "Parameters required for point source discharge..." Changes to monitoring requirements for NPDES discharges are not being proposed.
2.5.1.7	2-12	35	Add "as specified by the SRA."		
2.5.1.8	2-12	40	After close of parentheses, SB: "(30 CFR 816.102) with certain exceptions (30 CFR 816.71 through 816.74, 816.106, and 816.107)"		
2.5.2	2-13	33-35	SB: "Alternative # 2 includes the most protective (or inclusive) option under each principal Element. Therefore, Alternative # 2 is the most environmentally protective. Alternative # 2 would result in major changes . . ." This Chapter is not the appropriate place to comment on environmental impacts other than identifying the most		

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			environmentally protective alternative. Delete the reference to impacts on Industry.		
2.5.2	2-13	35-36	Is the language "while also increasing the administrative and economic burden on the mining industry" necessary?		Modify language
2.5.1.9	2-13	8-9	SB: ". . . removal operations, and for steep slope mining operations that meet the requirements for mountaintop removal operations, for which there are a host ..."		
2.5.1.8	2-13	1	At end of lline, insert: "30 CFR 816.71."		
2.5.1.8	2-13	2	At end of sentence, insert: "30 CFR 780.35."		
2.5.1.8	2-13	4	After end of sentence, insert: "Id."		
2.5.1.8	2-13	6	Add language that durable rock fills (end dumped) are allowed under the No Action Alternative.		
2.5.1.8	2-13	6	At end of line, insert: "Id."		
2.5.1.9	2-13	9	Should read ...there are a host of requirements...		
2.5.1.9	2-13	13	At end of sentence, insert: "30 CFR 785.16."		
2.5.1.11	2-13	18	SB: "Under 30 CFR 780.16 and 816.97, the mine operator must ..."		
2.5.2	2-13	32	Heading SB "Alternative 2"		
2.5.2.2	2-14	25-30	This list of baseline parameters seems reasonable except that TDS, pH, temperature, dissolved oxygen and conductivity should be included. For the Western U.S., silica is of little value, and labs now report -HCO3 as CaCO3. Boron and Oil & Grease might also be useful parameters for baseline.		
2.5.2.2	2-14	25-30	At a minimum, the list of parameters should also include TSS, TDS/SC to be truly more protective. pe	Yes	Insert TSS, TDS and Specific Conductivity to the list of parameters per comment
2.5.2.2	2-14	21	Why mention other alternatives?		
2.5.2.2	2-14	25	Add Mn to the list		
2.5.2.2	2-14	38	This bullet is confusing, e.g. selenium?		Delete "e.g. selenium"

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2.5.2.3	2-15	General	This alternative does not discuss MD to groundwater and water quantity (not regulated by water quality agencies).		
2.5.2.4 and 2.5.2.5	2-15	13-28	These two sections appear to be verbatim redundant. There appears to be no point to this repetition—so it appears that one of the sections should be different--?		true
2.5.2.3	2-15	4-12	If biological function impairment is included in the definition of material damage, biological baseline data for all stream types including ephemeral must be collected.		
2.5.2.5	2-15	18-20	Sentence beginning with "Other Alternatives would allow....."		
2.5.2.4	2-15	18-20	In the last sentence, on line 19, you use the pronoun "its"—the antecedent is unclear, and in any case there is no possible correct antecedent for this pronoun in the sentence [since both of the potential antecedents are plural]. It looks like what would be correct here is: "the activity's" --?		
2.5.2.6	2-15	32-34	Should specify frequency of biological monitoring, not just when it will be analyzed—to be consistent with chemistry. What about flow measurements? Shouldn't that be part of requirement so as to gauge meeting hydrologic balance (quantity)?	Yes	Insert "...Biological monitoring would be administered quarterly in accordance..." Insert Flow. Measurement of flow must be included.
2.5.2.3	2-15	11-12	SB: ". . . including ephemeral streams." Delete the reference to impacts on industry—not appropriate in this chapter.		
2.5.2.6	2-15	31-32	NPDES permits already require bimonthly or more frequent sampling. Why not make discharge monitoring consistent with NPDES? When and where does SMCRA require more extensive monitoring than the CWA.	WV	Revise most protective alternative to make hydrologic monitoring frequency equivalent to NPDES frequency See also section 2.4.6 on page 2-7
2.5.2.3	2-15	11-12	Suggest ending the sentence with: "...substantially restricting the areas where coal recovery could occur."	Yes	Strike "...~~substantially increasing the potential impacts to the mining industry~~." This sentence is a statement of impact.
2.5.2.3	2-15	9-10	Do the terms within the parentheses have to be defined in order to analyze impacts?	Yes	Delete material within parentheses

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2.5.2.6	2-15	32-33	Change the phrase "Biological monitoring" to something like Aquatic biological community." The way the sentence currently is written, monitoring would be monitored and that makes no sense.	Yes	Apply change per comment
2.5.2.3	2-15	4	SB: "SMCRA section 510(b)(3) provides that. . . "		
2.5.2.3	2-15	11	This is an analysis conclusion, should not be here.		
2.5.2.4	2-15	18	Maximum protection for streams and neighboring *communities...* potential *adverse socio-economic impacts*		
2.5.2.4	2-15	18	This Chapter is not the appropriate place to comment on environmental impacts other than identifying the most environmentally protective alternative. Delete the reference to impacts on Industry.		
2.5.2.5	2-15	25	Maximum protection for streams and neighboring *communities...* potential *adverse socio-economic impacts*		
2.5.2.6	2-15	31	SB: "same parameters measured during the . . . "		
"	2-15	32	SB: "quarterly. Monitoring will be used to evaluate the accuracy of the findings in the PHC determination; to determine the impacts of the operation on the hydrologic balance and determine timely whether corrective action is needed to prevent material damage to the hydrologic balance outside the permit area; to determine the impacts of the operation on the biological condition of streams within the permit and adjacent area; and the suitability of groundwater to support existing and approved uses. At a minimum, the monitoring must address all parameters for which material damage thresholds and corrective action trigger values are established under the cumulative hydrologic impact assessment. For point-source discharges monitoring must be done in accordance with 40 CFR parts 122, 123, and 434, and as required by the NPDES permitting authority; and monitoring must be consistent with any site-specific monitoring requirements of the agency administering section 404 of the CWA."		
2.5.2.6	2-15	36	Need discuss requiring a surface runoff plan. This is not specifically required in regulations.		
2.5.2.6	2-15	39	Suggest changing "storm water" to "drainage control"		

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2.5.2.6	2-15	40	SB: ". . . following a 10-year or greater storm event . . ."		
2.5.2.8	2-16	25-32	There is no mention of surface configuration anywhere in this alternative. It only discusses fills. The most restrictive alternative with respect to surface configuration would be to require an exact reproduction of pre-mine configuration. kg	Yes	Add language.
2.5.2.6	2-16	2	Suggest adding "assess and describe any potential" immediately before "material damage".		
2.5.2.6	2-16	2	The document uses the term "material damage". I would avoid using this term as it has specific meaning which I believe is unrelated to it use in this context. I would recommend using the plain word "damage" or "erosion" because that what we are talking about "damage" or water "erosion" of hydraulic control structures. pe	Yes	Delete "...control structures, ~~material damage,~~ and any remedial damages..." Insert – "...control structures, inspection observations and any remedial measures taken." Or Delete '~~Material~~"
2.5.2.6	2-16	3	What's the frequency of the RA and company review for trends?	Yes	Insert – "... the data quarterly to identify trends ..."
2.5.2.6	2-16	7	No discussion of new requirement, Surface water runoff control plan.		
2.5.2.7	2-16	18	Assuming that narrative WQ or other standards aren't met, is quarterly frequent enough to establish that corrective action is working. In other words, monitoring could wind up documenting a continuing violation without abatement-which should result in an FTA CO.	Yes	Need to include discussion of corrective action procedures. And corrective action plan.
2.5.2.7	2-16	22	As noted previously, similar to as was done in 2.5.2.9 for AOC, if we are proposing modification of SMCRA to assess all activities in a watershed, and not just mining, we should note that SMCRA revisions are required to accomplish this—rather than just alluding to it 5 in section 2.5 on page 2-14 in line 4 and 5.	Yes(duplicate)	Add language to detail "may require change to SMCRA"
2.5.2.7	2-16	24	Suggest adding "and would require an amendment to SMCRA."		
2.5.2.8	2-16	26	Add a new sentence : Achievement of AOC would be based on a determination that specific tolerances from the pre-mining configuration have been achieved through the use of landforming principles		
2.5.2.8	2-16	26	No discussion of surface configuration, only fill.		Add discussion of surface configuration requirements other

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					than for fill.
2.5.2.8	2-16	32	Suggest adding "and would require an amendment to SMCRA."		
2.5.2.9	2-16	34	SB: ". . . variances from the requirement to return the mined area. .."		
2.5.2.9	2-16	34	SB: ". . . (AOC). Those variances include but are not limited to. . . "		
2.5.2.9	2-16	37	Add to end of sentence: "it"		
2.5.3.1 and .2	2-17, 18	General	Why would we incorporate biological factors in the definition of streams and then not require monitoring of aquatic life. I'd again suggest that the stream classification and monitoring requirements in each alternative be harmonized in such a way that the most protective alternative incorporate biology in both stream definitions and monitoring, the next most protective alternative use surrogates for stream characteristics and quality, and so on. If not requiring continuous flow monitoring, does it at least require periodic flow monitoring so as to be able to document whether the hydrologic balance is maintained (quantity)?	Yes (Duplicate)	This needs to clarified sounds contradictory.
2.5.2.10	2-17	7 - 8	"Unlike the No Action Alternative, Alternative #2 would require reforestation of previously forested lands regardless of the postmining land use." This Alternative explanation does not make sense. Require reforestation of previously forested lands regardless of the postmining land use; what if the approved PMLU is industrial. Will a factory have to have forestland throughout the factory complex? It is doubtful this would withstand a legal challenge and SMCRA does not authorize this level of control over PMLU as it allows a change on land use.		
2.5.2.10	2-17	3	This title should probably be Reforestation not Revegetation		
2.5.2.10	2-17	5	In discussing reforestation the text states that this "would ensure full restoration occurs to the level of mature trees by establishing bonding requirements that are triggered when deciduous hardwoods are reestablished." There are two problems with this statement. First, it is unclear what is meant by full restoration to the level of mature trees. Does this mean the trees must be mature before bond is released or that the	Yes	We have changed language. And need to change to reflect climax forest.

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			same species and density must be present? This should be clarified. Second, not all forests in the US have deciduous hardwoods as the climax forest. As described in this sentence unless all restored forests that lack deciduous hardwoods would trigger some undefined bonding requirement. The criteria for deciduous forests should be revised to be more generic, possibly using the term climax forest. The bonding requirement should also be defined.		
2.5.2.10	2-17	6	Add a sentence: Native tree and plant species would be used to re-establish the native forest ecosystem.		
2.5.2.11	2-17	10	This title should probably be *Fish and wildlife…of streams impacted by mining*		
2.5.2.11	2-17	14	Add after last sentence: "This alternative may require a statutory change to SMCRA in order to implement it."		
2.5.2.11	2-17	16	Since SMCRA states enhancement is where practicable, this element would require SMCRA revision. As such, the element should indicate that action is part of the action.	Yes (Duplicate)	Add language to detail "may require change to SMCRA"
2.5.3	2-17	20	There is no clear description of this alternative through each of the 11 elements. It would be much clearer to state what would be addressed with each element and then discuss how each element differed from other alternatives. As written, the reader has no clear understanding of what will be enacted if the alternative is selected.		
2.5.3	2-17	20	Heading should read: "Alternative 3"		
2.5.3	2-17	21	Suggest add "conducting" before "mining"		
2.5.3.1	2-17	21	This whole paragraph is unnecessary; all this info is provided later. It adds nothing and is incomplete with respect to including all elements.		
2.5.3	2-17	24	SB: ". . .or in streams, but would require the operator to restore . . ."		
2.5.3.1	2-17	31	Moisture levels? Can we just say hydrologic definition? Not solely specific to aquatic organisms.		Replace "moisture levels" with "water"
2.5.3.1	2-17	32	Current stream use? Defined by whom?		
2.5.3.2	2-18	general	The description of what an alternative does and does not		

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Through 2.5.3.5			include is very confusing and unclear. Can we just describe the alternative without all the discussion as compared to alternative X or Y? This info is all redundant!		
2.5.3.1	2-18	1	Is this whole sentence pertaining to IDNR necessary?		*Delete sentence*
2.5.3.1	2-18	1	Does there need to be a relative comparison across alternatives. Seems redundant. This language also makes it sound less protective.		
2.5.3.2	2-18	4	Same *general ways*. Inappropriate statement. This paragraph is bad and very confusing. Can we just describe the alternative?		
2.5.3.1	2-18	5	Delete "that under"		delete
2.5.3.2	2-18	8	*Silicon has not been included in discussion in rulemaking. I don't think it should be singled out here in any alternative. If that particular compound would become a parameter of concern then the alternatives should allow RAs to choose those parameters that are of concern in that particular part of the coal mine region. For example selenium, while a big concern in some Appalachian regions, is not the issue in most mid-continent areas.*		
2.5.3.1	2-18	8	40 cfr requires Fe, Mn – how can we delete these?		Put back Fe and Mn
2.5.3.1	2-18	10	Add "results" after "sampling" and "to determine changes from baseline"		
2.5.3.1	2-18	19	What are "material damage impacts that are unabatable"		
2.5.3.4	2-18	23	SB: ". . . or near streams if the operator provided mitigation by . . . "		
2.5.3.4	2-18	25	Add after end of sentence: : "This alternative may require a statutory change to SMCRA in order to implement it."		
2.5.3.5	2-18	35	What are "CWA permitting standards (performance-based restrictions)"?		
2.5.3.6	2-19	general	The description of what an alternative does and does not include is very confusing and unclear. Can we just describe the alternative without all the discussion as compared to alternative X or Y. This info is all redundant!	Incorporate (Yes/No)	Proposed Disposition
2.5.3.5	2-19	1	...or impacted <u>streams,</u>		

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
2.5.3.5	2-19	1	Should read "...impaired or impacted streams..." kg	Yes	Apply change per comment
2.5.3.5	2-19	3	Add "performance" before "bond"		
2.5.3.6	2-19	10	40 cfr requires Fe, Mn – how can we delete these?		
2.5.3.7	2-19	21	How could an operator develop a programmatic corrective action plan? What is it?		Same disposition as for pg 2-8, line 6
2.5.3.7	2-19	24	The description of what an alternative does and does not include is very confusing and unclear. Can we just describe the alternative without all the discussion as compared to alternative X or Y. This info is all redundant!		
2.5.3.8	2-19	30	Does excess material include coal refuse?		
2.5.3.8	2-19	36	Streams, wetlands, hills, cliffs are not 'fluvial processes.		
"	2-20	2	Insert after end of bullet point: Landforming is intended in part to create topographic diversity. When landforming is used to reestablish a perennial or intermittent stream, the technique also involves selective placement of low-permeability materials in the backfill or fill and associated stream channel to create aquitards necessary to support streamflow.	Cheryl S	No change. Perhaps in Alternative 5, 2-28
2.5.3.8	2-20	3	~~Landforms~~ insert topography		
2.5.3.8	2-20	3	Seems like requiring DEMs of pre-mining (and post-mining) to document backfilling and grading/reclamation plan compliance would be more protective and in Alternative 2.	Yes	This items warrants moving some additional language into alternative 2 (2.5.2.9)
2.5.3.8	2-20	7	Delete "or 50 foot rule". *This is not a reasonable alternative and was not used in the proposed action.* Add after +-15% - as compared to premining topography		
2.5.3.8	2-20	9	Add "and/or reduce the volume of excess spoil generated." kg	Yes	Strike "...~~generated~~..."
2.5.3.8	2-20	10	The description of what an alternative does and does not include is very confusing and unclear. Can we just describe the alternative without all the discussion as compared to alternative X or Y. This info is all redundant!		
2.5.3.8	2-20	6 – 9	Same comment as on 2.4.8/2-8/25-26 above. pe	Yes	See above
2.5.3.9	2-20	19	SMCRA requires MTR improve watershed, not be equal to what would occur if non-AOC occurred.	Yes	JC will double check SMCRA requirements.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
2.5.3.9	2-20	22	Add "negatively" before "impact peak flow...."		
"	2-20	22	SB: ". . . not increase water quality parameters of . . . "		
2.5.3.9	2-20	36	Add "implemented and" after "actually"		
2.5.3.9	2-20	After line 37	Insert in a new paragraph: "This alternative would require a statutory change to SMCRA in order to implement it."		
2.5.3.10	2-21	General	Since 2.2.3.10 expands on alternative 2, that it is more protective by requiring organic salvaging and native species. Isn't it incongruent with alternative framework unless section 2.5.3.10 is swapped with 2.5.2.10?.	Yes	Need to review if Alternative 2 is less protective than Alternative 3. Add detail from 2.5.3.10 into 2.5.2.10
2.5.3.11	2-21	30	...enhancement ~~so~~ to the same		
2.5.3.11	2-21	After line 32	Insert in a new paragraph: "This alternative would require a statutory change to SMCRA in order to implement it."		
2.5.4	2-21	34	This whole paragraph is unnecessary; all this info is provided later. It adds nothing and is incomplete with respect to including all elements.		
2.5.4	2-21	37	Add "performance requirements to achieve" before "fill minimization"		
2.5.4	2-21	38	Remove "rules"		
2.5.4.1	2-22	General	Probably do not need to include all of 40 CFR with respect WOTUS.		
2.5.4.1	2-22	4	SB: ". . . would incorporate by reference the definition of "waters. . . " It is generally inadvisable to define a term by repeating a definition from another agency's rule, if you want to keep the two rules the same. It is inadvisable for a number of reasons, including the potential for the other agency to change its rule and thus create differences. Then you'd have to change your own rule by APA rulemaking, if you wanted to keep it the same as the other agency's rule. . . . Instead, it is generally preferable to incorporate by reference the definition in question.		
2.5.4.1	2-23	8	EPA and Corps include ephemeral streams within their jurisdiction. Why would we exclude?	Yes	Delete the last sentence per comment. OSM cannot define WOTUS in conflict with ACOE

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
					definition.
2.5.4.2	2-23	11	If "SPR" hasn't been previously defined, define before usage.		
2.5.4.2	2-23	11	Baseline data collection and analyis consistent with CWA? Consistent with SPR? What is this sentence proposing? This whole paragraph is poorly defined		Revise
2.5.4.2	2-23	14	...chemicals		
2.5.4.3	2-23	18	As I've already mentioned, I do not believe that this is a reasonable option for this alternative. Courts disfavor rebuttable presumptions, except in circumstances where, roughly speaking, there is substantial evidence or case law already establishing/recognizing the causal relationship. Here, I'm aware of no such pre-existing recognition of the causal relationship. If you need a more precise statement of the standard for rebuttable presumptions, I can find the decision in which the courts struck down a previous OSM rule-- OSM's rebuttable presumption of causation for subsidence damage within an angle of draw over underground workings. But in short, I don't think a presumption would be legally defensible, here. If you really want to pursue this alternative, I will find the court's rationale from the subsidence appeal decision, and we can discuss further.		Remove word "rebuttable"
2.5.4.2	2-23	22	Add "to the hydrologic balance" after" material damage"		
2.5.4.4	2-23	29	Insert after "SBZ" the word "prohibition". After the end of the last sentence, insert: "The prohibition has also been interpreted in other ways, and the existence of different interpretations was part of the reason for OSM's adoption of the current SBZ rule in 2008."		
2.5.4.5	2-23	33	Add "only" before "if the stream"		
2.5.4.5	2-23	33	Unclear language. SB: ". . . mining in a stream if the stream was. . ."		
2.5.4.5	2-23	34	Unclear language. SB: ". . .if the stream form and function that existed prior to mining would be . . ."		

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
2.5.4.5	2-23	35	Add "stream status" after "impaired".		
2.5.4.5	2-23	37	...prior to the		
2.5.4.10	2-24	30-35	This entire section is unclear. It is unclear how the RDPC is applied in the field, how it affects revegetation of the entire mine site or how it is evaluated at bond release. This section should be revised for clarity.	Yes (duplicate)	BLM reference?
2.5.4.7	2-24	14-15	It is unclear how/why reliance on regional standards is less precise than a watershed- or operation-specific approach. Need explanation or clarification, here.		
2.5.4.6	2-24	6	Parameters related to material damage? Rather than a suite? What does this mean? Regular biological monitoring? Irregular monitoring?		
2.5.4.6	2-24	7	Should we use "ions" rather than "chemicals"?		Change
2.5.4.6	2-24	7	SB: ". . . rather than for a suite of chemical parameters, and there would be no requirement to perform periodic . . ."		
2.5.4.7	2-24	11	Why would you not have biological monitoring in 2.5.4.6 and then rely on it for corrective action in 2.5.4.7? See comments above about being consistent with use of physical chemical and biological factors in the regulatory framework for each alternative.	Yes (duplicate)	Change to make consistent as possible.
2.5.4.8	2-24	17	No discussion on surface configuration. Same as No Action?		
2.5.4.8	2-24	23	This should be the same as no action. Does this alternative propose no federal variance standard? This is in contrast with SMCRA.		
2.5.4.7	2-24	10 – 14	Refers to "regional standards". What are regional standards? Who establishes them? The concept is not explained. pe	Yes	Change to "statewide" versus "regional"
2.5.5	2-25	General	Introductory paragraph – I know this is supposed to be a summary but it is incomplete and the alternatives are described in detail below.		
2.5.5.2	2-25	General	Once again, discussing what the alternative is and is not as compared to the other alternatives is confusing and I am not sure what the benefit of this discussion is. The alternatives should just discuss what they are. The reader can interpret the differences. Not sure where the consultant is going with this discussion. Additionally there is the MATRIX for comparison.		

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2.5.5.1	2-25	General	It's a bit if a misnomer to say that the preferred alternative doesn't use CWA concepts, inasmuch as the CWA is all about maintaining the physical chemical and biological integrity of waters of the US.	Yes	Insert last sentence – "...Alternative #4's sole reliance on the CWA definitions."
2.5.5.1	2-25	29-38	Two paragraphs seem repetitive. Suggest rewording/combination.	Yes	Consolidate to remove redundancies.
"	2-25	19-21	SB: "Alternative # 5 represents .. . . The Proposed Action includes some aspects of Alternatives ## 2 and 3,		
"	2-25	33-35	SB: " . . .and physical criteria to the definitions, . . . hydrologic criteria.		
2.5.4.10	2-25	4-6	Under SMCRA bond release cannot occur prior to year 5 or 10 of the extended liability period (after the last seeding, planting or augmentative practice) depending on the precipitation regime. It is unclear how bond release can occur after the third growing season. This should be revised to comport with SMCRA.	Yes(duplicate)	Make consistent with SMCRA
2.5.4.11	2-25	10-11	SB: "Alternative # 4 would apply new requirements. . . only if state or federal listed. . . "		
"	2-25	37-38	SB: "utilize fluvial geomorphic characteristics as criteria, as does Alternative # 2, or Alternative # 3's tiered approach, or Alternative # 4's CWA definitions.		
2.5.4.11	2-25	11	Shouldn't it read: "...would only apply if state or Federal listed species or their critical habitat are impacted...."	Yes	Apply change per comment
"	2-25	12	After end of sentence, insert: : "This alternative would require a statutory change to SMCRA in order to implement it."		*Yes, bur only if we take the word ? out of line 10.*
"	2-25	13	SB: "Alternative # 4 differs . .."		
2.5.5	2-25	18	Heading SB: "Alternative 5—Proposed Action"		
"	2-25	23	SB: " . . . requirements for mining operations and . . ."		
"	2-25	30	SB: ". . . and physical criteria."		
2.5.5.1	2-25	32	Delete: "criterion"		
2.5.5.2	2-25	37	The statement saying no reliance on fluvial geomorphic characteristics is not really accurate. The paragraph above mentions physical and hydrological characteristics. These are intimately associated with fluvial geomorphology. How can we say one but not the other. Also the proposed action includes		

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			fundamental fluvial geomorphic measurements.		
2.5.5.1	2-25	29 – 38	The explanation of "Stream Definition" tells me how it differs from the other alternatives, but it really does tell what it is … it only tells me what it is not. As a result, I have no understand of how "The Proposed Alternative" defines streams.	Yes	The stream definitions for ephemeral, intermittent, and perennial should be clearly defined. The proposed action definitions should be based on the rule language and reflect : <u>Ephemeral stream</u> means a stream or segment of a stream with the following characteristics: (a) A defined channel and an identifiable streambed are present. The channel contains an ordinary high-water mark and the channel bottom is always above the local water table. (b) Water flows in the channel only in direct response to discrete precipitation events or in response to the melting of snow and ice. Groundwater is not a source of streamflow. <u>Intermittent stream</u> means a stream or segment of a stream with the following characteristics: (a) A defined channel and an identifiable streambed are present. The channel contains an ordinary high-water mark and the channel bottom is below the local water table for at least part of the year. (b) Water flows in the channel

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					for only part of the year, with those flows originating from both surface runoff and groundwater discharge. (c) The biological, hydrological, and physical characteristics commonly associated with the seasonal conveyance of water are present, while the biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water typically are absent. (d) The biological community includes species that are aquatic during a part of their life cycle, are capable of diapause or other dormancy periods, or move to perennial water sources in dry conditions. More than 25 percent of the organisms present, as determined in accordance with § 780.19(e) of this chapter, are representative of taxa with the morphological, physiological, or behavioral adaptations for living in flowing water in the region. <u>Perennial stream</u> means a stream or segment of a stream with the following characteristics: (a) A defined channel and an identifiable streambed are present. The channel includes an ordinary high-water mark.

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					(b) In a typical year, water flows continuously in the channel during the entire calendar year as a result of both surface runoff and groundwater discharge. The term does not include any stream or segment of a stream that meets the definition of an intermittent stream or an ephemeral stream, but it does include stream segments in which continuous flow ceases because of a protracted period of deficient precipitation or meltwater relative to historical norms, as determined under §780.19(c) of this chapter. (c) The biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water are present. (d) The stream supports aquatic organisms year-round. More than 25 percent of the organisms present, as determined in accordance with § 780.19(e) of this chapter, are representative of taxa with the morphological, physiological, or behavioral adaptations for living in flowing water in the region. Agree….summarize the concept.
2.5.5.2	2-26	General	Requirement to document flow not mentioned as a parameter.	Yes(duplicate)	Measurement of flow must be

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					included.
2.5.5.4	2-26	24-41	The explanation of this alternative is very confusing. It talks about allowing for the construction of facilities in or near intermit. and perennial streams, after consideration of all alternatives, but then turns around and mandates the establishment of 300- foot buffer zone for intermittent and perennial streams, both on and off the permit area. These two concepts seem to be mutually exclusion. Moreover, how are buffer zones to be established off-permit? If are off-permit they are already buffered from mining. pe & kg	Yes	The 300 foot forested buffer needs to be more clearly defined. EX. Establish a 300 foot forested buffer zone between the operation or disturbance and the undisturbed intermittent or perennial stream. Establish a 300 foot forested buffer along each bank of the reconstructed intermittent or perennial stream. Make consistent with draft rule language.
2.5.5.4	2-26	24-34	Don't care for the wording in this paragraph		Revise paragraph to make consistent with draft rule language.
2.5.5.3	2-26	13-18	The definition of material damage is not clearly articulated in this section. There appear to be two components: "degraded biological conditions" and "no longer be used for designated use". OSM needs to provide a concise and specific proposed *definition* of material damage in order to make a fair assessment of what the environmental impacts would be The definition of Material Damage to the Hydrologic Balance under Alternative 5 on Table 2-1 is even more vague, as it could be interpreted that *any* adverse impact – regardless of the magnitude – would designate as material damage.		Revise to include actual MD definition in proposed rule, and revise Table 2-1
2.5.5.3	2-26	13-18	The proposed definition of material damage does not explicitly state only intermittent or perennial. Also, the definition not only includes designated use but also reasonably foreseeable	Yes	The proposed action alternative language should define material as applying to all streams and

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			use. dd		include provisions that also protect water uses for the reasonable foreseeable future.
2.5.5.4	2-26	28-33	SB: "activity would not preclude any premining use or any designated use under section 101(a) or 303(c) of the Clean Water Act, of the affected stream segment after reclamation. The mining operation would have to ensure that intermittent and perennial streams continued to have the amounts of base flow necessary to remain intermittent and perennial streams, respectively. The Applicant also would have to demonstrate that the operation would not have more than a de minimus adverse effect on the ecological function of the affected stream segment after reclamation, or cause material damage to the hydrologic balance outside the permit area. Further, the Applicant would have to demonstrate that the proposed activity would not cause or contribute to a violation of federal, state, or tribal water quality standards."		Commenter inserted "more than a de minimus for "adverse effect" and "not significantly reduce" Ensure this is consistent with rule text.
2.5.5.3	2-26	19-22	Material damage is defined solely within the context of subsidence and subsidence control (30 CFR Ch. VII 784.20 and 817.121). Such a definition does not take into account adverse impacts to hydrologic resources from first mining practices (i.e. no planned subsidence). First/development mining can dewater aquifers and springs as well as alter ground water flow directions resulting in significant adverse impacts. However, such impacts would not be considered "material damage" because they were not produced by subsidence. If such impacts cannot be considered "material damage", the enforcement options afforded regulatory authorities is limited (i.e. if there is no subsidence, there can be no material damage).		Revise to include actual MD definition in proposed rule
"	2-26	10-13	SB: "Alternative # 5 would allow mining through streams if stream form and function would be restored. It would not rely on Clean Water Act permitting standards as would Alternative # 3, and would not apply the previously impaired condition of a stream as the baseline for measuring restoration of form and function as would Alternative # 4. Alternative # 5 would not impose a ban on activities within 100 feet of a stream, as		

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			would Alternative # 2."		
2.5.5.2	2-26	4-6	The proposed rule will require baseline documentation on all stream types.	Yes	The proposed action alternative language should require that baseline documentation is required for all streams (ephemeral, intermittent and perrenial).
2.5.5.4	2-26	39-41	The proposed rule requires the establishment of a 300 ft forested buffer under certain circumstances – not in all cases! Also, where does the proposed rule require a surface runoff management plan as part of 780.28? dd	Yes	Surface water control plan Ensure consistent with rules.
2.5.5.2	2-26	2-3	SB: "Alternative # 5 would include the same requirements for baseline data collection and analysis as would apply under Alternative # 2, except that Alternative 5 would require sampling . . . "		
2.5.5.2	2-26	5-6	As Alternative #5 does not require sample collections from ephemeral streams, clear guidance should be provided as to what information/criteria/conditions define an ephemeral stream. Given the natural "flashy" nature of ephemeral drainages in the Book Cliffs sub-area of the Utah coal fields, which typically flow only in response to major rain events and snowmelt, sampling ephemeral drainages is simply not practicable from a safety, timing, or data quality perspective. Nonetheless, ephemeral drainages may in some cases be situated such that sampling is possible and baseline data collection is warranted. Utah therefore supports OSM in not requiring baseline data collection for all ephemeral streams; however, we would reserve the right to require baseline data on key ephemeral drainages in some instances on a permit-specific basis.	Ut	Ensure this section reflects current rule text
2.5.5.4	2-26	32-33	Please clarify whether "not reduce biological conditions" refers to outside the permit area or both inside and outside the permit area. This is another example of OSM needing to provide more clear language in order	Ut	Biological condition is anywhere....MD is only outside the permit. May need rewording.

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			for Utah to evaluate the environmental impacts associated with the proposed rulemaking.		
2.5.5.2	2-26	2	This section states the baseline data requirements in the proposed rule are the same as in Alt #2 which is incorrect. Alt #2 does not include pH, TDS/SC, hot acidity, and TSS which the proposed rule does. dd	Yes	The full suite of constituents is incomplete (e.g. pH, TDS, Specific Conductivity, Hot Acidity, and TSS). The full suite also includes constituents that are specific to pre-mine discharges (e.g. aluminum) or are not proposed (e.g. silicon).
2.5.5.2	2-26	7	Add Mn to list		
2.5.5.2	2-26	7	Once again, is this discussion necessary?		
"	2-26	7	SB: "Alternative # 5 differs. . . by adding minimum water"		
"	2-26	11	SB: "some, but not all of the parameters that would be added by Alternative # 5, and provide that the regulatory authority would set other standards.		
2.5.5.3	2-26	13	SB: " . . . material damage to the hydrologic balance would be . . . "		
2.5.5.3	2-26	15	Suggest adding "such that stream designated use is precluded" after "network".		
"	2-26	19	SB: "Alternative # 5 is similar to Alternative # 2 in that its criteria are . . . "		
2.5.5.3	2-26	20	Suggest adding "biology as manifested in its" before "and designated uses"		
"	2-26	21	SB: "consideration of impacts to only those that can not be abated, as does Alternative # 3, or . . . "		
2.5.5.4	2-26	24	This paragraph say 'prohibited' but then goes on to discuss the exceptions. Is it really prohibited?		
2.5.5.4	2-26	24	The proposed rule does not prohibit mining activities in or within 100 feet of intermittent and perennial streams. dd	Yes	Revise language to explain that the proposed action does not 'prohibit' mining activities in or within 100 feet of intermittent and perennial streams. This activity is allowed under specific requirements and performance

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
					standards.
2.5.5.4	2-26	26	Add "other than fills" after "activities"		
2.5.5.4	2-26	27	SB: " . . . would have to demonstrate to the regulatory . . ."		
2.5.5.4	2-26	28	Delete "limit" add inhibit", delete "or have an adverse effect on the pre-mining".		
2.5.5.4	2-26	31	Delete "remain", add "function"		
2.5.5.4	2-26	39	Change the sentence that begins with" If these conditions..." to ~~If these conditions are met~~, A surface runoff management plan must be developed that will ensure peak discharges are contained within the permitted area and not contribute to material damage. *All surface mines regardless if there is a fill will have to develop this surface water runoff analysis.*		
2.5.5.7	2-27	General	Doesn't specifically state that biological monitoring is required, but I assume it will be. May want to spell out.	yes	Insert – "... based on required monitoring parameters..."
2.5.5.6	2-27	15-21	The wording of these passages is very confusing to us. We don't know how to comment. Please add clearer wording. How can the permittee demonstrate the restoration of stream community without monitoring data? (Do you mean that monitoring does not need to be formally reported until the six month period starts, or do you mean something else?)		Please clarify
"	2-27	18-20	SB: "Alternative # 5 would expand on the requirements of the No Action Alternative by requiring that more chemicals be monitored and requiring documentation of biological conditions. Under Alternative # 5, monitoring could not be waived . . ."		
"	2-27	36-38	SB: " . . . excess spoil and requiring restoration of pre-mining topography. The requirements are . . . identified for Alternative # 3 . . . ."		
2.5.5.5	2-27	1-3	*How does this apply to a fill? A filled stream can't be returned to form or function since it is buried. Excess spoil fills require*	Lois	Revise paragraph to reflect fills

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			enhancement to compensate for loss stream length. Also final grading of the fill deck includes creation of stream channels using landforming principles		
2.5.5.4	2-27	2-4	SB: " activity within 400 feet of a perennial or intermittent stream, but only under specified conditions, including a showing that he stream would continue to function as intermittent or perennial. Alternative # 5 would not include the ban in Alternative # 2 on activities within 100 feet of a stream.	Yes (modified) or NO	Accept cheryl's comment, butr change 400 to 100 and add the "t" to the word "he" and reinsert the concept of form and function where she jus used function
2.5.5.8	2-27	38-39	*Alternative #5 should include the language about restoration through landforms, etc. If this alternative is the proposed action, then the way it is presented now is wrong. The proposed action does indeed require landforms, ridge and valley reconstruction, achievement of AOC with tolerance of + - 15%*		
2.5.5.4	2-27	2-3	Delete "with a showing of continued", replace with "demonstration that"."		
2.5.5.4	2-27	2-3	Delete "as", replace with "of		
2.5.5.7	2-27	27-28	SB: "trigger corrective actions to avoid causing material damage to the hydrologic balance outside the permit area. The operator would be required to develop a corrective action plan on either a programmatic or permit-specific basis." [But see previous comments—how could an operator develop a plan on a programmatic basis?]	Yes but OSM must give contractor guidance on how to respond	
2.5.5.5	2-27	11-12	I did not read alternative 4 as setting an impaired condition as a standard. I would remove this or reword to state that an impaired condition is not a prerequisite for mining through	Yes	Alternative #4 does include the provision that a stream cannot be mined through unless it has been determined to be impacted or impaired by CWA
2.5.5.4	2-27	3	Add "is capable of being restored: to end of sentence.		
2.5.5.5	2-27	6	Is prohibited the right word? It is not clear that enhancements and mitigation are a result of impacts tot streams.		
2.5.5.5	2-27	7	The form and function language was deleted in the last version I reviewed (still appears under bonding requirements).	Yes	Replace "~~function~~" with "ecological function" in entire document. This is the intent as is included as the proposed action.
2.5.5.6	2-27	15	This section indicates adopting the same standards for		Please clarify

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			monitoring under alternative two with certain exceptions. It is not clear if the inspection plan in section 2.5.2.6, line 39 concerning inspection following a 10-year storm event and report preparation and submission by a professional engineer within 48 hours is also required as a part of the preferred approach. If so, consideration must be given concerning this requirement given the burdensome nature and the fact that some companies would have numerous inspections and reports that must be completed in a short time frame and the fact many companies do not have the multitude of professional engineers available that would be necessary to perform this function.		
2.5.5.6	2-27	15	SB: "Alternative # 5 would include the same standards for monitoring as would Alternative # 2, except that Alternative # 5 would . . . "		
2.5.5.6	2-27	16	If monitoring not required until restoration achieved, what data is going to be the basis for concluding/demonstrating that form and function attained?	Yes	Change to read "would require monitoring to continue only no adverse trend is detected, that is that quantity and quality have stabilized, and not until the permittee has demonstrated..."
"	2-27	21	SB: ". . . Alternative # 5 would require monitoring for a broader.. . "		
"	2-27	23	SB: "parameters as would Alternative # 4."		
2.5.5.7	2-27	25	Degree of degradation? Do we want to use this language? The idea is to set criteria below degradation. It should also be mentioned that CWA/EPA class of use standards must be supported.		
2.5.5.7	2-27	27	Add phrase "Upon determination by the regulatory authority that the mining site caused the thresholds to be exceeded" before "a corrective action....."		
2.5.5.7	2-27	28	*The quarterly review- it should say the review is done by the permittee.*		
"	2-27	31	Delete "all-encompassing".		
"	2-27	33	SB: ". . . # 5 is more site-specific than Alternative # 4's . . . "		
2.5.5.8	2-27	35	SB: "Alternative # 5 would emphasize minimizing the amount . . . "		

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
2.5.5.8	2-27	36	Delete "of"		
	2-27	38	This misrepresents the proposed action. We are pursuing elevation tolerance, e.g. plus or minus 20%. Also we are proposing that AOC suitability be evaluated on approximation of slopes, aspect and elevation.		
2.5.5.9	2-28	11-18	The "financial assurances' language here is confusing. Is the intent to get assurances from developers that the proposed PMLU will be carried out? The proposed rule text requires the operator to post bond to restore the site to AOC if the proposed land use is not implemented by the end of the revegetation responsibility period. kg	Yes	See Comment in section 2.4.9 Strike "...and backed by ~~financial assurance."~~ Replace with – "...feasible, achievable and financially supported."
2.5.5.8	2-27/ 2-28	35-39 1-9	Drop reference to 50-foot rule. This does not accurately characterize the proposed alternative with regard to AOC restoration. The proposed rule language does define AOC restoration to include the restoration of landforms including slope, aspect and a +/- 15% (or possibly 20%) change in surface. kg	Yes	Agreed. Ensure that the language is consistent with the proposed rule text.
"	2-28	15-18	SB: " . . . substantially from the prohibition in Alternative # 2 of all AOC exceptions. . . . Alternative # 3, but would not include the same financial . . . Alternative # 5 would not provide for regulatory authorities to establish criteria for AOC variances and exceptions based on regional regulations and conditions, as would be provided under Alternative # 4."		
2.5.5.10	2-28	23-26	SB: "Alternative # 5 would expand the reforestation requirements of Alternative # 2, to include . . . species and require use of original organic material. Alternative # 4 would emphasize . . ."		
"	2-28	32-34	SB: " . . . permit areas, as provided under Alternative # 3. Also, unlike Alternative # 4, Alternative # 5 would not limit enhancement requirements to operations that would affect areas with state or federal listed species."		
2.5.5.9	2-28	11-12	Suggest deleting this sentence because SMCRA has achievability ad feasibility requirements included in the PMLU language.		
"	2-28	1-2	SB: "requirements for AOC would allow the operator to exceed pre-mining elevations in certain circumstances. . . .		

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
"	2-28	8-9	SB: "requirements for construction techniques, . . . would apply to surface configuration under Alternatives ## 3, 4, and 5."		
2.5.5.10	2-28	20-21	SB: "Alternative # 5 would set the same requirements for revegetation and topsoil management as would Alternative # 3, except that Alternative # 5 would not require . . . five years preceding the permit application."		
2.5.5.11	2-28	29-30	SB: "Alternative # 5 would set the same requirements for fish and wildlife protection and enhancement as would Alternative # 2, except that Alternative # 5 would not apply these requirements to ephemeral streams. "		
	2-28	12-13	Language seemingly conflicts with lines 37-39	BW	Fix to be consistent with rule
2.5.5.10	2-28	21-22	I do not believe this is a correct statement based on the most recent copy of the draft rule. dd	Yes	Ensure consistent with rule
"	2-28	5	SB: " Unlike the ban in Alternative # 2 on placement . . . "		
"	2-28	6	SB: " . . . and # 4 would allow excess spoil fills . . ."		
2.5.5.9	2-28	11	SB: " Alternative # 5 has the same AOC exceptions as Alternative # 3, except that Alternative # 5 does . . ."		
2.5.5.9	2-28	12	I do not believe this accurately portrays the proposed action.		
"	2-28	13	SB: " . . . exceptions, but it would impose additional . . . "		
2.5.5.10	2-28	21	Language seemingly conflicts with language in lines 24-26	BW	Fix to be consistent with rule.
2.5.5.10	2-28	24	This section indicates a reforestation requirement to emphasize "original organic material". It is not clear what is intended by this statement or precisely what is intended by "original". If this means that topsoil from the same area must be utilized then consideration needs given to the fact that topsoil is not present at all areas as a result of either previous disturbances or historic erosion. Also, in some cases, an alternative material may be better suited for revegetation establishment than would that which exists at the time of disturbance. Latitude should be provided for a regulatory authority to determine the best materials for the proposed purpose based upon physical and chemical characteristics.		Please clarify

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
2.5.5.10	2-28	25	Should read "...would also take into account..." kg	Yes	Apply change per comment
2.5.5.11	2-28	31	SB: " . . . must be within the same watershed unless there are no enhancement opportunities in the watershed; and must be in the permitted area unless the measures involve only a de minimis disturbance of the land surface. Typically, enhancement measures would not extend. . . "		Cheryl introduces two parts to the EIS language that I don't know where it came from see yellow parts Accept
Table 2.1	2-29	---	While Table 2.1has been helpful as a reference to compare alternatives, some significant inconsistencies between it and the text of the document were found. For example, the definition of material damage under Alternative 5 on the table is lacking details that are included in the text.		Ensure that matrix and text are consistent. Not all details are necessary, however.
2.6	2-31 thru 2-33	N/A	The introduction to this section states that as there are no environmental impacts associated with the three Elements included in this section, there is no need for any further analysis under NEPA. Section 1508.14 of NEPA regs states that when an EIS is prepared and economic or social impacts and natural or physical environmental effects are interrelated, then the EIS will discuss all these effects on the human environment. I would submit that it would be doing a disservice to the public if we did not acknowledge that there will be economic impact for these elements and the variations acknowledged therein. For example, if alternative bonding systems (ABS) are no longer allowed, there would be a much more significant financial impact on the industry and staffing review burden on the RA's than if the existing ABS's were grandfathered in. While there indeed may not need to be an environmental analysis of these elements, at a minimum the economic impacts and any additional burdens placed on the gov't RA's should be acknowledged somewhere in the document. If these type impacts are addressed in the RIA, perhaps a reference to the RIA could suffice for meeting NEPA requirements for this issue.	Yes(duplicate)	The description of how these "elements" can be put aside needs substantial revision or the entire concept revisted.
2.6.1	2-31	25-30	The last version of the previous rule had allowed for an ABS with some restrictive language. This language of an absolute prohibition conflicts with that language.	Yes (duplicate)	Make consistent with proposed rule.
2.6.1	2-31	15	"... assets or ~~are~~ serve as guarantees ... " Try this ... it reads much better. pe	Yes	Apply change per comment

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
2.6.1	*2-31*	25	*Prohibition of ABS is too strongly worded as there has been debate whether some forms of ABS developed by RAs are working and should be allowed to continue. Hence I would not use the term "prohibit" but use" limit" instead. True that self bonding for stream reconstruction or long term discharge treatment is prohibited.*		
2.6.1	2-31	35	Suggest adding "bond," in front of trust.		
2.6.1	2-31	38	"... function (~~as described above~~ as required by the final regulation) with no release ... " I think this change captures better what we are trying to say.	Yes	Apply change per comment
2.6.2	2-32	40-41	*Same comment as above about ABS prohibition vs. limitation*		
2.6.1	2-32	4-5	As written, it sounds like you must have material damage occurring to get Phase III release. Add language that states "... damage has not occurred outside ..."	Yes	Apply change per comment
2.6.1	2-32	4	Delete "of known", add "that"		
2.6.1	2-32	4	Add "had been prevented" in front of "outside"		
2.6.1	2-32	5	Delete "would be required" in front of "before"		
2.6.1	2-32	5	Add " could occur" at end of sentence.		
2.6.2	2-32	27	Suggest adding "is expected to" in front of "continue"		
2.6.2	2-32	33	What are parameters of concern with EPA BAT standards?	BW	Change "with" to "which have"
2.6.3	2-33	General	Coordinated permitting could result in better environmental protection. The OSM, EPA, Corps and FWS MOU in 2005 noted that coordination and collaboration in the permitting process could result in: • Avoid and minimize adverse environmental impacts from surface coal mining and reclamation operations as a result of the placement of dredged and/or fill materials in the waters of the U.S.; • Improve decision-making by making the permit process more transparent and available to the public, more predictable and understandable for the regulated community, and reliant on sound scientific information;	Yes(duplicate)	See Comment regarding including MOU in Appendix. Insert reference to MOU in the first paragraph of this section.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			• More effectively catalogue threatened and endangered (T&E) species, cultural, and historic properties, and address related issues at the earliest possible stages of permit review; The press release quoted agency directors stating this type of coordination: • "We will improve the efficiency and effectiveness of the permitting process." • "...an important step in improving the permit decision-making process." • "The result will be a more comprehensive environmental review process...."		
2.6.3	2-33	14	I don't think OSM should be the coordinating agency. Suggest "State Regulatory Authority" in place of OSM.		
2.7	2-33	27	SB: " . . . the range of options for the Principal . . . "		
"	2-33	34	SB: ". . . our rationale for not taking. . . "		
2.7.1	2-33	38	SB: "All options considered . . . "		
2.7.2	2-34	14-15	Does this comport with NEPA?		Need to make language changes to make less confrontational
2.7.2	2-34	3	SB: "Under this element, . . ."		
2.7.2	"2-34	7	Disagree. It appears that the draft evaluation of this comment just blows off the comment. The comment effectively appears to recommend development of both a robust sampling procedure and protocols for addressing cumulative impacts in a CHIA. Why not address this in the EIS rather than quibbling over the wording of the comment? Is it because the recommended actions do not require, or are not well-suited to, rulemaking? If so, then say that. This does not appear to be a good-faith response.		We have options that address the comments first suggestion. We need to tell contractor how to handle CHIA part of the comment. Revise the response
"	2-34	15	After the end of the sentence, insert a new sentence: "Therefore, this is not a reasonable alternative."		
"	2-34	18	SB: "OSM has no authority to establish or enforce national technical standards for data collection. . . ."		
2.7.2	2-34	24	Suggest adding "parameters" in front of "of concern".		

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'	2-34	29	After the end of the sentence, insert a new sentence: "Further, OSM does not believe that these matters are properly addressed pursuant to SMCRA, or are otherwise sufficiently related to OSM's function or jurisdiction. These concerns might or might not be under the jurisdiction of some other federal agency.		
"	2-35	5-7	SB: " . . incorporated into Alternative 5, although OSM has never applied the 1983 SBZ rule to categorically prohibit mining . . . . After the end of the sentence, insert a new sentence: "Likewise, OSM disagrees that NEPA requires that all alternatives must be as protective as the commenter's interpretation of the 1983 rule. Rather, under NEPA, OSM must consider a full range of reasonable alternatives."		
2.7.6	2-35	25-27	Why has IDNR been identified as the originator of this comment? Specific reference to the identity of any commenter should be removed. pe	Yes	Remove reference to IDNR
"	2-35	10-11	SB: " . . . incorporated into Alternative # 5, although . . . mention limiting buffers to floodplain or floodway boundaries."		
"	2-35	14-15	SB: "OSM does not believe that this is a reasonable alternative, because . . . is not always necessary . . . . " After the end of the sentence, insert a new sentence: This alternative would preclude the mining of an unnecessary amount of coal and thus would fail to strike a balance between protection of the environment and the need for coal as an essential source of energy, which is one of the purposes of SMCRA. 30 U.S.C. 1202.		
2.7.6	2-35	19-20	SB: "Require continuous sampling at outfall discharge points until it is demonstrated that. . . "		
2.7.4	2-35	14-15	Not sure that this explanation for why no further analysis of this possible alternative is going to occur meets the requirements of NEPA. Suggest we say something more like, this alternative would not meet the purpose and need as in some cases, prohibiting mining activities in an entire floodplain or floodway may not be necessary to protect streams while in other cases (e.g. ephemeral / intermittent headwater streams), limiting prohibitions to the floodplain or floodways may not	Yes	Adopt commenter's language..

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			provide enough protection for those streams.		
2.7.4	2-35	2	SB: "Implement the 1983 SBZ Rule. . . "		
"	2-35	8	SB: "Modify the strict interpretation . . . "		
"	2-35	12	SB: " Prohibit mining . . . "		
"	2-35	17	SB: "All options considered . . . and analyzed"		
"	2-35	22	SB: "OSM does not believe this is a reasonable alternative. Alternative # 2 provides . . . testing, and would be an unnecessary . . . ."		
2.7.6	2-35"	25	SB: "Locate compliance points within the permit boundary, in order to ensure that requisite rights of entry are feasible." What is the response to the suggested alternative, as re-characterized?		Comment is beyond the scope Remove reference to IDNR
2.7.7	2-35	31	SB: "All options considered . . . and analyzed"		
2.7.11	2-36	12-13	SB: "Give individual states permitting responsibility . . . accountable for permit compliance."		
2.7.12	2-36	16-17	Section 2-6, page 2-31, and this section appear to conflict. One sections says no further analysis and one states it will be analyzed further.	Yes	Delete sections 2.7.12 and 2.7.13. . Inconsistent with discussion in section 2.6.
2.7.13	2-36	18-19	Same comment as above.	Yes	Delete sections 2.7.12 and 2.7.13. Inconsistent with discussion in section 2.6.
2.7.8	2-36	2	SB: "All options considered . . . and analyzed"		
2.7.9	2-36	4	SB: "All options considered . . . and analyzed"		
2.7.10	2-36	6	SB: "Require that forest fragmentation in Appalachia be minimized."		
"	2-36	14	At the beginning of the line, insert a new sentence; "This comment does not propose a change to existing regulations."		
2.7.14	2-36	21	SB: "All options considered . . . and analyzed"		
Appendix	A-1	?	KDOW - Kentucky ~~Department~~ Division of Water pe	Yes	Apply change per comment

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Comment Form

Title of Document	General Comments on EIS
Contact Information	
Name	
Telephone Number	
Email	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
Whole			Once again, and even worse than Chapter 2, WV has not had time to adequately review the voluminous chapter 3 with any thoughtful efficiency. Even with the "quick read" given to the document It was also evident that OSM and its contractors also did not have adequate time to prepare the document with omissions and inconsistencies too numerous to mention. However, some of them are documented later.	WV	
General Comments			Utah Division of Oil, Gas, and Mining (UDOGM) has some significant concerns with the scope of this EIS as it pertains to Utah coal fields. These concerns are here explained and simple suggestions are made which should be relatively easy to implement in the EIS. First, UDOGM recently issued a SMCRA permit for a proposed surface mine in an area of southern Utah (Kane County) where production is expected to begin within a few months. UDOG believes that Kane County should be considered within the scope of this EIS because the future surface coal mine will be directly affected by any proposed stream protection rules. It is noted that two Montana counties with future coal mines are also being addressed within the scope of this EIS (3.0.2, page 3-4, lines 4-5). Second, after OSM-approved UDOGM consultation with a coal expert from the Utah Geological Survey (a state sister agency), UDOGM believes that the Utah's active coal mines and coal reserves should be analyzed separately from those of Colorado for reasons discussed in UDOGM's comments. The "Uinta Basin" section (3.2.....) does not adequately (or	UT	https://fs.ogm.utah.gov/PUB/MINES/Coal_Related/MAPS/pubrecmap.pdf Significant Federal coal reserves in the western states, including Utah (%) (UGS) The BLM would be a good cooperating agency to involve, especially for the Mineral Resources sections of both Chapters 4 and 3.

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			accurately) describe Utah coal geology, and subsequent sections evaluating other resources using (loosely) this geographical area are unrepresentative of Utah's "affected environment." UDOGM proposes a simple way for the contractor to effectively evaluate both of these important coal bearing areas of Utah. With SMCRA permitting in mind, the general coal mining areas in Utah were defined and analyzed in three USGS water resources investigative reports that provide defined geographical boundaries conducive to additional resource analysis. The two areas of concern are covered in two of these reports and a third geologic assessment report: - Hydrology of Area 56, Northern Great Plains and Rocky Mountain Coal Provinces, Utah (Open-File Report 83-38) - Hydrology of Area 57, Northern Great Plains and Rocky Mountain Coal Provinces, Utah and Arizona (Open-File Report 84-068) - Geologic Assessment of Coal in the Colorado Plateau: Arizona, Colorado, New Mexico, and Utah (Kirschbaum, Roberts, and Biewick, 2000) **A third general concern** is the relative lack of detail given to coal resources in the Colorado Plateau, so much of which are federally-owned, and which the federal government relies on for revenue. The Bureau of Land Management would be a good resource to consult with about many of the resources evaluated in the EIS.		
General Comments			Uniformity of structure and naming still needs work. For example, some sections have a explicitly named and numbered "0" section (often either "Background" or "Introduction"), but sometimes it is unnumbered and unnamed. Additionally, subsections are sometimes named "Colorado Plateau", "Colorado Plateau Region", and "Colorado Plateau Basin". Where possible, consistency (one name) is preferable.	UT	

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Overall			Chapter 3 is intended to be a comprehensive document specific to the environmental settings of each region. The Chapter is several hundred pages in length. The schedule provided to the cooperating agencies in an e-mail of September 14 called for this chapter to be delivered on Friday, October 22, 2010. This did not occur and it was not until nearly 4:30 p.m., Eastern Time that the cooperating agencies were notified of a delay and that it instead would be provided on Monday morning, October 25 via a Sharepoint site. This notification also stated Chapter 3 would not contain the hydrology portion. It is of extreme difficulty for a cooperating agency to review the chapter with a total systems approach given the fact this rulemaking is predominately hydrology related. Monday morning came and went and parts of Chapter 3 were finally received after 3:00 p.m., Eastern Time. Apparently the agency had not even set up the Sharepoint site as yet because the e-mail indicated that due to issues setting up the Sharepoint site, these parts were being sent e-mail rather than Sharepoint. As a result, Chapter 3 could have been sent in the same fashion on the preceding Friday when they were scheduled to be sent thus giving the cooperating agencies the weekend to include in their review time. Issues with line numbers and pagination necessitated OSM to re-send all six parts of Chapter 3 to the cooperating agencies. This occurred after 4:00 p.m., Eastern Time on Tuesday, October 26. Regardless of the length of this chapter, all of the delays, errors, and resubmissions of information to the Cooperating Agencies, OSM did not provide additional time for review of the non-hydrology parts beyond that November 1 deadline stated in their e-mail of October 22. OSM has also stated they expect the hydrology sections to be available by Friday, October 29 and they previously stated in their e-mail of October 22 that the deadline for submission of comments on this portion would be forthcoming. That also did not occur as scheduled and cooperating agencies were notified after 5:00 p.m., Eastern Time on October 29 that it would be provided the next week. It should also be noted Part 3.19 was received the afternoon of October 28 with comments required to be	IN	

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			submitted by 10:00 a.m., on November 4. The piece meal processes for supplying information on the draft EIS to cooperating agencies continues to be flawed. It is difficult for a cooperating agency to do anything more than a cursory review of the information given the time constraints placed upon the cooperating agencies. As a result, Indiana cannot perform the adequate review necessary for a comprehensive document of this size and therefore cannot indicate agreement with its contents. Moreover, the reconciliation process for Chapter 2 was no reconciliation process at all but rather the "cooperating agencies" were simply informed that some comments had been accepted and passed along to the consultant. Much of the call was devoted to OSM reiterating the time pressures that the Federal Government has created with this process. In view of the lack of adequate review and comment time and lack of an interactive reconciliation process, Indiana cannot perform a thorough review worthy of an issue of this importance on a document of this size. Our comments in no way should be construed to infer any concurrence with the content of the document or policies that may result from this process.		
General comments Chapter 3			The section on Minerals and Mining resources with detailed discussions and diagrams are quite good and should be instructive to those not familiar with the various mining methods. However, this chapter (700+ pages?) is not concise. Much of this information could have been incorporated by reference or put into an appendix, especially if it was in the MTM EIS. You should draw conclusions about the data you have collected as well as using what is in the earlier EISs. There needs to be more of a tie in between the alternatives/proposed action and the information in the chapter.	EPA	
			The evolution of draft Chapter 3 for the EIS is as much a conundrum as draft Chapter 2. Throughout draft Chapter 3, OSM has apportioned detail and depth in the development of the sub-chapters for the Appalachian	TX	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			Region, heavily weighting the focus and attention on mountain top mining. The information for the remaining geographic regions and various other methods of coal and lignite mining qualifies as mere bones lacking flesh, essentially invalidating the need for an EIS for these other regions and mining methods. As a coordinating agency, the Surface Mining and Reclamation Division (SMRD) of the Railroad Commission of Texas (Commission) has chosen to participate in a process that, from the outset with the first coordinated conference call, seems flawed. With a near impossible time schedule, our review of the extraordinarily voluminous Chapter 3 is rushed and dilute. Coordination continues to be at a minimum in this process. Based on the described schedule, review of the next draft chapters will be even more voluminous and fall on holidays. Nonetheless, the SMRD continues to participate at this time and offers the attached comments on draft Chapter 3. Generally, the statements, data and assumptions provided in draft Chapter 3 are lacking substantiation rendering an educated review of the information infeasible, notwithstanding the impossible review schedule. As with the previous chapter, draft Chapter 3 seems hastily		

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			prepared, ridden with typographical and editorial errors. The evaluations provided in the sub-chapters appear to inconsistently characterize the Gulf Coast Region as (1) a general area where coal and lignite mining could potentially occur, or (2) are more specific to the counties where active mining presently occurs. This inconsistency tends to render the generalizations less effective since they are not necessarily representative of the locale of the active mines. We look forward to getting a larger picture view of where OSM is going with the proposals in this draft document as future chapters are provided for review.		

Comment Form

Title of Document	Chapter 3.1 Mineral Resource and Mining
Contact Information	
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Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
Introduction	i, ii		Insert space between heading & numbers. Change to "3.1.1_Coal" or "3.1.3_Mining"	KJass	Accept
3.1	3-5	Figure 3.1-1	Why not use the actual USGS map rather than scan in a page from an EIA document? It will eliminate text at the bottom.	KJass-OSM	Accept
3.1.1	3-6 to 10	n/a	No discussion of metallurgical coal versus steam/power generation. Also, 3rd category: chemical basestock (Eastman)?	VA	Expand discussion of coal usage to include both metallurgical and other minor uses, including chemical feedstock.
3.1	3-6	Figure 3.1-2	1) Can the colors be labels showing the regions? 2) Should symbols be better used so that B&W copies clearly can be read? 3) Who/what is Lupper 2009? No footnote to document source of information AND the name/date not coming up when google	KJass	Accept 1 and 2 as valid concerns. Believe that "Lupper" should be "Luppens" , but double check reference.
3.1	3-6	Par "In 2008..."	Why not use more current information – 2009 available on EIA site www.eia.gov/cneaf/coal/page/acr/table1.pdf this table show by state production UG & surface tonnges.	KJass	Agree. Use most current data to extent feasible.
3.1.1.2 3.1.1.5	3-7 3-10		*EIA website says 488 billion short tons DRB NOT 489 bsh Also, EIA says 261 bst (55.48%) estimated recoverable reserves NOT 263 bsh* *The actual EIA numbers from their current website (10/25/10) are shown in Figure 3.1-5, page 3-11. The*	KJass	Agree.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			numbers above need to be corrected.		
3.1.1.3	3-8	19	Change "technological" to "technology".	Barcley-OSM	Accept.
3.1.1.3	3-8	25	BLM-Utah reported a maximum depth of 2800 – 3000 ft. at the Utah Coal Symposium at the Western Energy Training Center, Helper UT (10/27/2010.), although limited coal mining deeper than 3000 feet has occurred in Utah.	UT	Accept. Change to reflect correct depths.
3.1.1.3	3-8	30-31	"...very thick coal bed with a shallow depth would be more economical to mine than a very thin ~~shallow~~ coal bed with a greater depth."	UT	Accept.
3.1.2	3-9 3-14	Last par. 1st par	*Inconsistent use of Western U.S. vs. western U.S. Cap –on page 3-9. Not on page 3-14.*	KJass	Make usage consistent.
3.1.1.2	3-9	12-17	Additionally, environmental regulations could reduce the ability to mine coal in particular areas. This does not appear to be addressed by this section as written. We look forward to evaluating Table 3.1-3, which currently is not included in the text.	EPA	Accept. Please refer to the role of environmental regulations.
3.1.1.3	3-9	18-19	Consider both sides of technology. Technological developments expand resources; restrictions limit them. The development of the longwall is one obvious example of technology that expanded reserves dramatically in underground mining because it increased recovery. Suggested modification: "Technology~~ical Restrictions~~: In addition, technological restrictions and developments ~~also~~ either limit or expand resource recovery, primarily in relation to underground mining."	UT	Accept.
3.1.1.3	3-9	32-33	"Inclusion of dilution and partings material lowers ~~is low in~~ Btus/lb and thus decreases the quality of the mined coal."	UT	Accept.
3.1.1.3	3-9	"Finally..."	Last sentence should be modified to "...sulfur content, common in the east, mid-west and NW (WA & AK) coal, results...."	KJass	Accept.
3.1.1.3	3-9	footnote 3	"These include ... National Forests, ..." This is unclear; coal mining is generally not excluded on National Forest lands.	UT	Revise text to say that coal mining is allowed in National forests if determined to be compatible with the management plan. This usually restricts the mining to underground

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
					operations.
3.1.1.5	3-10	10	"the ~~DBR~~ DRB to measure..."	UT	Accept.
3.1.2 Types of Coal and Extraction Methods	3-11	9	The price per ton of sub-bituminous coal does not appear correct.	TX	Accept. Use updated price values with date stamps.
3.1.2	3-13	Figure 3.1-6	Anthracite shown in legend, but not actually used in graph, so need to explain why. Again – if printed in b&w, colors won't show up. Use symbols instead.	KJass	Accept.
3.1	3-14 through 3-59		This section, 3.1, contains many inaccuracies relating to mining practices and departures from regulatory terminology. The writers seem to have little knowledge of Appalachian mining practices (and overall surface mining practices) and the Statutory and Regulatory requirements. This should be rewritten by professional engineers, geologists and regulatory experts with a working knowledge of the subject matter. This is a DOI/OSM document and in its present form suggests that the Department and Agency lack regulatory and mining knowledge. This may also be the case for the other sections of the document not reviewed by this reviewer.	Lane-OSM	Agree. This section should be carefully reviewed by ECSI and Morgan Worldwide to ensure consistency with coal mining industry and regulatory program terminology and practice.
3.1.2	3-14	8-9	"Of the estimated demonstrated coal reserves in the ~~of~~ U.S., approximately 68%, ~~is~~ are mineable by underground methods, while the remaining 32% are mineable by surface methods." Also, "estimated demonstrated" sounds contradictory.	UT	Accept.
3.1.3.1.	3-14	29-32	Underground mining is not really an alternative to surface mining. The method utilized will be dependent on (feet of) cover and seam thickness rather than ownership issues.	KY	Accept. ECSI/Morgan review should catch these technical issues.
3.1.3.1	3-14	3rd from bottom of page	Change "presents" to "present".	Barcley-OSM	Accept
3.1.3.1	3-15	Figure 3.1-8	*Again B&W won't show difference in colors red & blue.* *Also, red & blue colors not defined – which UG, which surface mined?* *Also – why not use current (2009) production numbers from*	KJass	Agree with concern

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			*EIA – /*www.eia.gov/cneaf/coal/page/acr/table1.pdf		
Figure 3.1-8	3-15		Histogram is divided by different colors representing "underground mining types," which are not indicated in legend	Mike R OSM	Duplicate
3.1.3.1	3-15	1	Figure 3.1-8 is supposed to show underground mining by type but the legend only shows one category, "Other" and does not tell you what types are represented by the red and blue colors.	VA	Duplicate
3.1.3.1	3-15	1	Figure 3.1-8 is missing a key for what the colors mean.	EPA	Duplicate
3.1.3.1	3-15	Fig 3.1-8	The different types of underground mining are not, but should be, specified. The legend for this bar graph (only one entry – orange) does not correspond to the bar colors in the graph (blue and red). Also, this figure should be updated to agree with and present each of the 7 coal producing regions described in this chapter. The graph also needs a label for the y-axis.	UT	Duplicate
Figure 3.1-8	3-15	------	The legend of the graph is incomplete and does not show extraction methods.	KY	Duplicate
3.1.3.1	3-15	Fig3.1-8	The legend in the bar graph needs to be expanded. Only shows other. Need to show the main categories as well.	Garnett-OSM	Duplicate
3.1.3.1	3-16	Fig 3.1-9	Figure title should be "Typical Cross Section", not "Type Cross Section"	UT	Accept
3.1.3.1	3-16	Figure 3.1-9	Figure 3.1-9 is described as showing a cross section depicting the different types of extraction methods. Legend is unclear and figure overall is not clear.	EPA	Duplicate
Figure 3.1-9	3-16		Credit CONSOL Energy for drawing in header	Mike R OSM	Accept
3.1.3.1	3-16	Figure 3.1-9	Consol drawing, though retrieved from KY website. Proper credit needed to CONSOL. This is obviously a scanned in document, where clarity is an issue (legend and inserts) blurry, illegible. Contact CONSOL for digital or original map for scanning. Also, Kewal Kohli in ARCC has a hard copy of this map if needed.	KJass	Accept
3.1.3.2	3-16	6-8	This paragraph should be moved under 3.1-10 on page 3-17 for improved clarification.	KY	Agree. Please move.
3.1.3.2	3-16	Par 2	Last word is overburden, which has not been defined. Change sentence to "... in excavation in to the overlying	KJass	Accept

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			strata, or overburden."		
3.1.3.2 ACCESS	Start 3-16	Whole section	This section explains a number of types of mine access methods, but there is no header to indicate a change to a new type. Suggest simple headers be added in this section (example: Drift Mine, Slope Mine) to show and introduce next type discussion. A prime example of confusing presentation is on page 3-17 where the drift mine drawing is directly over and not separated from the box cut discussion. Also, never head of a box cut access – it is simply faced up transition area from a surface mine to an underground mine – but it still utilizes a drift (horizontal) or slope (angled) access to the coal. I don't think this is a commonly identified type of access to the coal and should be removed. Finally, I don't think each drawing in this section needs to include "Underground Mining Methods". It is in the UG mining method section & the drawing should make it obvious it is to access the UG coal.	KJass	Accept
Figure 3.1-10	3-17		Not sure what the vertically "striped" area at the outcrop represents—a load out? If that is what is supposed to represent, suggest making it similar to line drawing for prep. plant or simply deleting. Also would suggest that rail cars be located beside prep plant instead of looking like they are within the mountain.	Mike R OSM	Accept
Figures 3.1-10 & 3.1-11	3-17, -18		The pattern used to represent a cross-section through rock should be changed or oriented so that the implied "layers" run horizontally as would sedimentary rock. Label cross-section A-A' and put on drawing; orient direction of and label pictures 1 and 2 on drawing	Mike R OSM	Accept
3.1.3.2	3-17	Figure 3.1-10	Drift drawing. 1) what are the black boxes outside the portal area? 2) what are the white boxes inside the mine entry? 3) why are the coal cars shown below the coal seam, within the coal? This picture is actually is more representative of a hardrock stope mine where the track/haulage level is below the actual mining area.	KJass	Duplicate
3.1.3.2	3-17	Par 1	A box cut mine if this must be used (see comment above regarding unknown term), written as "generally with a	KJass	Accept

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			sloping road into the box cut". This should be changed to "generally with a road sloping down through the former surface mine box cut to the coal seam or after facing up a hillside operation to access the coal directly with a horizontal drift into the coal seam"		
3.1.3.2	3-17	8	Should list as temporary spoil storage area instead of excess spoil area	VA	Accept
3.1.3.2	3-18	2	Top portion of Box Cut Cross Section Figure 3.1-11 the drawing on the top left appears to be supported by nothing additional labeling recommended	VA	Accept
3.1.3.2	3-18		Box cut figure, but w/ 4 parts inside the figure – none of them labeled. Top – drift mines on both sides of valley. Why is this a box cut? Left – true box cut – remnant of surface mine used to face up highwall of underground mine.. In this case, the road accessing the bottom of what was the pit is steeply sloped. Right – have no idea what this is supposed to be. Bottom – caricature of box cup opening to faced up underground mine. Also, showing sloped access down to the coal. Have no idea what the section line is for.	KJass	Accept
3.1.3.2	3-19	Par 1 – slope	1st sentence - if it was an outcrop it would be on the surface. This should read if the "…coal <u>seam</u> (not outcrop) cannot…" 2nd sentence "in order to facilitate conveyor haulage or other equipment (slope track hoist for example), and must tunnel through the rock [ADD <u>overlying strata and</u>] rock above the coal, or overburden, to achieve this access	KJass	Accept.
3.1.3.2	3-19	Par 1, "A shaft mine"	This section is for shaft mines, but nowhere in the discussion does it explain what a shaft is or how it's used. 2nd sentence should be changed to "Once a shaft is drilled or constructed, an elevator arrangement is constructed	KJass	Accept

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			within the shaft, is used to…." Remove, "known as a hoist", as the hoist is the cable apparatus that moves up the cage within the shaft.		
Figure 3.1-12 & -13	3-19, -20		Ditto comment on stippling above to look more like sedimentary rock. Cross section of seam in these 2 drawings should use solid blocks of black coal to represent pillars as opposed to the thin lines currently shown.	Mike R OSM	Accept
3.1.3.3	3-20		1st paragraph 1st sentence: "...which are explained ~~in detail~~ below."	UT	Accept
3.1.3.3	*3-20*	Par 2 "R&P mining…"	REPLACE "place to support the mine roof while coal is extracted" WITH "support the <u>overlying strata and main mine</u> roof while…" Pillars do not support the immediate mine roof (thus the requirement for supplement roof control during mining activities).	KJass	Accept
3.1.3.3	3-20	Par 2 "R&P mining…"	"…grid-like pattern (INSERT: see figure 3.1-9) in a panel of coal.." REMOVE: "which can be more than 400 feet wide and half a mile long" as this is a generalized comment that isn't necessarily correct in the western mines. ?????? Jeff – coal pillars are generally "20 to 90" feet wide – this is not completely true with the minimum pillar width – this may be true in the east for RETREAT mining only but it is NEVER allowed in the west. In addition, the maximum size of pillars in the west may be up to 200' (these per MSHA, Dist 9 Vent). Also there is no average or maximum length it depends on the coal strength & overburden material analysis–	KJass	Accept. Please have ECSI/Morgan review for consistency with mining industry practice.

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			though that is also limited by MSHA regs that require a maximum distance between mandoor access through cross cuts at 300' or 600' depending on coal height. "entries average 20 to 30 feet wide" is an incorrect statement. MSHA regulations specify the maximum entry width in an underground coal mine is 20' (16' on a curve).		
3.1.3.3	3-20	3rd para.	The discussion of room-and-pillar mining type should mention/indicate the general size of reserve block ("relatively small" is not very descriptive) that must exist to make for a viable mine—similar to what was provided in the longwall discussion (50 mT).	Mike R OSM	Accept
3.1.3.3	3-20	Par 3 "R&P mines..."	CHANGE "After a panel has been fully developed" TO "After the maximum extent of a panel has been fully developed..." "...the mining direction is usually reversed for retreat or secondary extraction [ADD "with the using the same mining equipment"]."	KJass	Accept
3.1.3.3	Start 3-20		This section 3.1.3.3 room and pillar mining should be the head of section which includes conventional R&P and continuous miner r&p. The difference between these two mining types is simply the equipment used – the design is identical. There for, section 3.1.3.4 (conv mng) and 3.1.3.5 (contin MINER) should be sections under R&P heading, not separate sections Sentence 1 – "conventional room and pillar and continuous [ADD – miner or mining machine] room and pillar which are explained in	KJass	Accept

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			detail below"		
3.1.3.5	3-21	Heading & Par.	*This section should be entitled "Continuous Mining Machine Room & Pillar" referring to the type of mining machine used. Until reading this section, I had no idea what a continuous mining R&P method was referring to.* *2nd sentence* "mechanically break". Continuous Mining machines cut coal with bits on a rotating head, not break it. 3rd sentence – " machinery works from the back side of the mine moving toward the Entrance" should be changed to ",machinery works from the from the most developed mining area back toward the surface opening or shaft."	KJass-OSM	Accept
3.1.5	3-21	multiple	Suboleski, 1999b – this, as w/ earlier Luppen cite, is referenced a number of times, but there is no footnote to clearly indicate what document what the reference is to.	KJass	Double check on the reference.
3.1.3.4	3-21	11	"Cutting of the coal allows <u>an</u> open face"	VA	Accept
3.1.3.4	3-21	12	"<u>coal</u> can be blasted", instead of rock.	VA	Accept UT comment below
3.1.3.4	3-21	15	Coal doesn't always need to be blasted. Clarify this: "The cut coal face <u>may be</u> blasted <u>if necessary</u> to free the coal..."	UT	Accept and use.
3.1.3.5	3-21	28	Need a period after surface.	VA	Accept
3.1.3.6 & 3.1.3.7	3-22	Par 1 remainder	"during the room and pillar [ADD: advance or developmental] sequence" Both pillar extraction room and pillar mining and longwall mining ARE technically retreat mining. As above, w/ R&P mining methods, both of these retreat types mining can be listed under a Retreat Mining heading but should not be separately numbered headings – simply described.	KJass	Accept

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			Also – in lieu of referring to R&P removal as simply retreat mining, perhaps it is more clearly descriptive of this activity to state it is doing pillar removal or pillar extraction. In 3.1.3.6, the activity of retreat mining should be explained as the mining process that extracts coal from large blocks of the mine once access has been developed and established into these areas. Thus the term retreat, extracting coal as the operation is backing out towards the surface. Also, in 3.1.3.6 " allowing the roof to collapse in a predictable manner" should be instead " allowing the roof to collapse in the manner predicted by analysis of the coal and overburden material." – there is a science to this.		
3.1.3.7	3-23	1st Par Par 2 Figure 3.1-15 Par 3	"to create a panel" should be changed to "to create the coal panel to be mined" "... two or three parallel entries are made into the coal seam" CHANGE TO "two or 3 // entries are made on either side of the coal panel to create the coal face to be cut..." The widths indicated are now not the maximum sizes. Change to "cutting 30 to 42 inches [ADD into the] coal per pass" *This figure is a good opportunity to label the coal face, the shields and the shearer.* "the cutting direction is reversed and the longwall	KJass-OSM	Accept

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			miner moves in the opposite direction." This is better stated here than in paragraph 2 above which states "working backwards towards the origin of the panel. This process can be stated in only 1 location. "As the shields advance [ADD: with the cutting and removal of coal], overhead stresses [ADD: and gravity] cause…" "Cracks resulting from the mine roof collapse do not generally propagate to the surface [depending on the mine depth and geology, but"		
3.1.3.8	3-24	24-26	KYDNR believes attributing most surface subsidence to coal mining in the U.S. is inaccurate. Subsidence features in Florida and central Kentucky, for examples, are not coal-related.	KY	Agree. Please revise to indicate that coal mining subsidence is an issue, but there are other causes of surface subsidence. See VA comment below.
3.1.3.8	3-24	24	"Most surface subsidence in the United States has been attributed to the underground mining of coal." This statement is not true. Subsidence can be a result of natural karst processes, oil extraction, aquifer compaction, etc.	VA	Agree. See comment above.
3.1.3.7	3=24	Par 2 - "Longwall mining has… Par 3 – 'Longwal mines are…	"Longwall mining is the only [REPLACE "only" with "MOST"] practical method for seams of [ADD: LOCATED] greater than… "generally safer….,provide better subsidence control over local pillar removal," what does this mean –should it state provide	KJass-OSM	Accept

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			better subsidence control over removal of pillars in pillar extraction mining? Also – what exactly does subsidence have to do with the SAFETY of the miners in this sentence – it is a surface affect? "have lower [ADD supplemental roof] support requirements.." "moving equipment between panels" CHANGE "to moving equipment from a mined out to a new panel" - this clarifies why you would move between panels for those that don't know mining. NO TRUE as written: "The equipment is also specific to the mine and may not be transferable to other sites after mining is completed". CHANGE to: "The equipment is also DESIGNED specifically FOR the mine GEOLOGY and may not be transferable to other sites after mining is completed, HOWEVER COAL COMPANIES HAVE MOVED EQUIPMENT FROM A DEPLETED OPERATKION TO ANOTHER IF IT IS LOCATED IN THE SAME SEAM IN AN ADJACENT AREA WITH THE SAME STRESSES AND GEOLOGY. "some of the irregular areas remaining" – REMOVE REMAINING.		

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			Some room and pillar mining is usually associated with longwall mining to extract coal reserves to form the longwall panels " has essentially already stated above (page 3-23, 1st line on page) as "In the longwall mining method, two or three parallel entries are made into the coal seam like continuous room and pillar methods" "Many new longwall mines are operating or being developed in the Illinois Basin." Why is this in here, is this the only place in the US that there is new development?		
3.1.3.8	3-25	3	"Two types of surface features caused by mine subsidence are sinkholes and troughs." This implies that these features are only caused by mining subsidence, which is not the case, as these are also natural features in karst landscapes. As referenced in Section 3.1.3.8, page 3-24, line 24.	VA	See above
3.1.3.8	3-25	6	Last word in the line should be and	VA	Accept
3.1.3.8	3-25	Figure 3.1-16 Par 1	Reduce length of arrow between sections of drawing "into a [ADD larger] mined-out area"	KJass-OSM	Accept
3.1.3.8	3-26	1st para.	Should indicate that hydrologic effects and other surface damage has been documented beyond the angle of draw dependent on the site specific conditions.	Mike R OSM	Accept
3.1.4	3-26	General	This section may give the wrong impression that backstowing of waste underground is a common practice.	Mike R OSM	Accept. Add qualifier in text to indicate this happens infrequently.
3.1.4			The underground miming waste disposal discussion here does not seem to recognize what you call dilution or partings.	WV	Add discussion of dilution as a result of taking rock due to mining equipment constraints and the presence of partings (rock inclusions) in the coal seams. Have ECSI and Morgan review this section.

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3.1.5	3-26	1st para.	Some states regulate auger mining as underground mining and some as surface mining.	Mike R OSM	Accept. Please add discussion to text indicating that different programs regulate these operations differently.
3.1.3.8	3-26	4	Add the following sentence: "Subsidence can also affect the hydrologic balance above and adjacent to mined areas by altering surface water and groundwater conditions." In the western states, potential impacts to hydrologic features (like springs) from subsidence are of significant concern.	UT	Accept.
3.1.4	3-26	13-17	Sections 3.1.7.8, 3.1.7.9, 3.1.7.10 should be inserted here as they are closely related to, and a necessary artifact to, underground mining methods.	KY	Accept. Please move sections.
3.1.4	3-26	13-17	This section on surface disposal of waste from underground mines is extremely cursory. It also lacks any references to the fact that fills from underground operations may be similar to those described in the next section (on surface mining). More detail and cross-references would significantly improve the discussion.	EPA	Please address through the changes suggested in other comments.
3.1.4	3-26	13-17	I suggest this section be titled" **Coal Mine Waste"** rather than **"Underground Mine Waste Disposal"** to be consistent with §701.5 definition. Also the paragraph could be structured to be consistent with §701.5 and §816/817.81 in both language and content. For example, rather than beginning the paragraph with "Underground mine development waste", it could begin with "Underground development waste" (by definition given in §701.5 means waste-rock mixtures of coal shale, claystone, siltstone, limestone, or related materials that are excavated, moved, and disposed of from underground workings in connection with underground mining activities).	Lane	Agree and accept changes.
3.1.4	3-26	18	The title of this section may lead one to believe that it describes disposal of wastes such as coal processing slurry and AMD treatment sludge or fly ash. It appears that the intent is to describe scalp rock and gob. This ambiguity should be resolved.	VA	Duplicate. See response above.
3.1.5	3-26	25-26	It should be noted that an auger method can be employed instead of underground mine	KY	Agree. Please revise to reflect comment.

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			entries when limits of surface mining are reached.		
3.1.5	3-21	Multiple	As w/ the underground mining, the types of mining are limited but the range of equipment used doesn 't necessarily make that method new . there are basically 3 types of surface mining – area, contour and MTR. Use of exclusive dragline or scrapers doesn't warrant these being separate types of mining or being a stand-alone headings – they can be listed under area mining under subheadings. Same w/ Open pit mining – it is still a surface mine, just a pit inside a small area.	KJass-OSM	Disagree. No changes necessary.
3.1.5	3-26	Par 4	Sentence 1 – REMOVE: "although surface mines may also employ surface-directed underground equipment, called augers or highwall miners, for secondary extraction of coal without overburden removal" as it is better stated in the next sentence discussing 2ndary mining "Secondary extraction associated with surface mining, collectively known as highwall mining [ADD: using augers or highwall miners], occurs after the final highwall limits have been reached.	KJass-OSM	Agree. Accept changes.
3.1.5	3-27 3-28	4) Par 2	"equipment access for removal and haulage [ADD: of mined coal]' "Surface [ADD disturbance of] mines. This will take into account the all types of coal mines must meet AOC, surface areas of UG as well as the surface coal mining operations. SMCRA – has this been defined yet? Also, Section 701(2) should be liked w/ SMCRA or whatever it is cited from.	KJass	Accept.

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		Par 3	"...AOC variance [ADD: issued by the regulatory authority] is necessary."		
3.1.5	3-27	14	This sentence describes how topsoil is often thin within the "study area" and therefore can't be stripped and segregated. Given that the "study area" includes many thousands of square miles across the country, it would help to be more specific about which parts of the study area this refers to.	EPA	Accept. Please clarify what portion of the study area is being discussed.
3.1.5	3-28	General	Should mention that multiple seam mining allows blending of coals of differing quality so as to meet specific contractual demand for particular coal end use.	Mike R OSM	Accept.
3.1.5	3-28	8-13	The requirement to achieve approximate AOC is not unique to surface mining. Achieving approximate AOC is also required for reclamation of underground mines.	UT	Accept, though only for surface facilities, face-up areas, etc. and not for subsidence. Please have this carefully reviewed.
3.1.5	3-28	8 to 17	AOC discussion doesn't address watershed size, in regards to relocating watershed divides	VA	Not necessary. Disregard
3.1.5	3-28	17	An AOC variance may also be necessary due to the requirements of the post-mining land use	KY	Accept. Add language to address this comment.
3.1.5	3-28	17	This sentence appears to be an oversimplification of AOC variances. Rather than suggesting that the operator must get a variance if it hasn't maximized spoil placement, it should emphasize that an AOC variance may be granted only under certain conditions – and therefore it is not automatically granted if the operator does not want to maximize spoil placement on the mined area.	EPA	Accept. Please revise to reflect this comment.
3.1.5.1	3-28	19-21	Recommend deleting much of this sentence so it reads as follows: "Contour mining takes place in mountainous or rolling hill areas and limits mining to the side of a mountain or to the end of a ridge line." This sentence should <u>not</u> describe contour mining as merely a method that is chosen where it is "infeasible" or "uneconomical" to conduct area mining, particularly given the (typically) reduced environmental consequences of pursuing contour mining approaches instead. As written, this section appears to suggest that area mining is preferred in all cases.	EPA	Accept. Please change as per the comment.

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3.1.5.1	3-28	35	The statement that "spoil from almost all succeeding cuts must be disposed in fills" is incorrect. Usually, the first cut must be placed in a fill and spoil is backfilled on the contour behind the progressing operation to ensure contemporaneous reclamation.	KY	Accept. Please revise as per comment below.
3.1.5.1	3-28	36	I suggest replacing "On steep-sloped sites... disposed of in fills as well" with "On steep-sloped sites...disposed of in excess spoil disposal areas" to be consistent with §816/817.71	Lane	Accept.
3.1.5.1	3-28	39	"Wheel tractor scrapers" is suggested to replace "Pan scrapers".	Lane	Accept
3.1.5	3-28	Last para.	Suggest: "When these conditions are not met in steep slope areas due to a desire to create an equal or better post-mining land use, or in other terrain due to the presence of thick overburden, an AOC variance is necessary.	Mike R OSM	Accept. This addresses comment above.
3.1.5.1	3-28	Par 5 – "Contour mining takes Par 6 "To begin a...	"due to property ownership conflicts [ADD or topographical layout of the property]..." – I'm getting at isolation of an area where impractical to get to another mtn to dispose of mat'ls. "The lateral movement, or haulback, technique is the most common contour mining style." Pls clarify this statement. I don't know what haulback is, does it mean hauling of material to mined out areas to backfill and recreate the premining contour? "but is usually hauled to an excess spoil disposal area." Use of a new term, one w/ an exact	KJass	Accept first comment. Reject second....no change necessary. Reject comments on excess spoil disposal area and below.

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			definition under law. Change to "hauled to a spoil disposal area outside of the area of mining." "disposed of in fills as well" Again use of new term – one w/ a legal definition. Because this sentence refers to mountainous terrain, more explanation that the designated fill is off the mountain in a designated valley and constructed for disposal, should be provided. "The selective placement of spoil by trucks allows" should clearly state that it is moved out of the way to allow for 2ndary mining & disposed of either in temp stockpile or in a permanent disposal site.		
3.1.5.1	3-28	Last para.	Should explain here why there is "excess spoil" due to bulking.	Mike R OSM	Accept. Include a new paragraph or sentences to describe how excess spoil results from the bulking of rock when It breaks.
Figure 3.1-17	3-29		Pattern used to represent overlying strata should either be reoriented to show horizontal striations or replaced with pattern that looks more like stratigraphic column.	Mike R OSM	Accept.
3.1.5.1	3-29	1st para.	Introduce the term "valley fill" for first time without explaining that they are excess spoil disposal. Should also introduce the concept that "second cuts on prelaw" is termed "remining."	Mike R OSM	Accept. Include additional language to clarify that valley fills are a
3.1.5.1	3-29	Figure 3.1-17 Par 2	*This figure should also show where the material is being placed – stockpiles and perm. disposal sites (excess spoil disposal) – particularly as much is made of the logisitics in a limited area, required in this type of mining* "This method is not suitable for large coal reserves and does require a disposal area for spoil on steep-sloped sites." This is mentioned in the	KJass-OSM	Accept

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			LAST paragraph of contour mining – though it is alluded to in several locations earlier. I have other comments indicating this should be addressed where it first mentioned, rather than at the end where I just found the statement. Also "Second cut or more operations can take place on prelaw mine areas where preexisting contour cuts are used for…" This brings up the new use of lands previously mined – but it doesn't clarify that they are now part of the active mining operation and now have the same environmental requirements.		
3.1.5.1	3-29	7	I suggest revising the "Berm" to an "Outcrop Barrier" or leaving this feature unlabeled.	Lane	Accept
3.1.7.3	3-29	12-13	More commonly use sand or salt filters	VA	Reject. Not sure that is universal
3.1.5.1	3-29	15	I suggest replacing "a disposal area for spoil" with "an excess spoil disposal area" to be consistent with §701.5 and 816/817.71. Spoil can be disposed of in either the mined out area or excess spoil disposal areas.	Lane	Accept
3.1.5.2.	3-30	2	Please delete "separate entity" and replace with "different mining type."	KY	Accept
3.1.5.2	3-30	2	I suggest replacing "mountaintop removal" with "mountaintop removal mining" to be consistent with §785.14 and 824.	Lane	Accept
3.1.5.2	3-30	Line 2, top Par	"Although area mining may affect an entire mountaintop or ridge line, it is considered a separate entity from mountaintop" this sentence and the figure 3.1-18 both refer to MTR, but there is NOT discussion exactly what the difference is. Please do so, as it doesn't appear to be discussed in	KJass	Duplicate.

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		Par 3 – "Area mines may…"	this immediate section of text. The activity in the paragraph would be best described with a 3-d drawing showing the cut and movement of material & equipment, rather than the cross section shown at the top of the page.		
3.1.5.2	3-30	5	I suggest replacing "coal production" with "overburden removal".	Lane	Accept
3.1.5.2	3-30	7	Figure 3.1-18 is labeled Area Surface Mine or Mountaintop Removal, however the narrative on line 2 states they are separate entities	VA	Duplicate
Figure 3.1-18	3-30		Ditto comments above on pattern used to represent overburden strata.	Mike R OSM	Accept
3.1.5.2	3-30	1st para.	Suggest "and can ~~entail~~ necessitate disposal of large volumes of excess spoil.	Mike R OSM	Accept
3.1.5.2	3-30	20	I suggest replacing "valley fills" with "an excess spoil disposal areas" to be consistent with §701.5 and 816/817.71. I don't think the term "valley fill" has been introduced to this point.	Lane	Accept
3.1.5.2.	3-30	13	"entail disposal of large volumes of excess spoil" is based on the assumption that there are no existing benches to backfill there is no re-mining occurring?	KY	Accept. Add language to indicate that in some cases, particularly remining, excess spoil can be used to backfill unreclaimed areas from previous mining.
3.1.5.2	3-30	14-16	This explanation of area mining in steep slopes is not consistent with the p.3-31 line 29-30. Page3-31 should revised to be consistent with p.3-30 lines 14-15.	Lane	Accept
3.1.5.2	3-31	1st para.	Somewhere in 3.1.5.2 needs to state that multiple pits and equipment spreads may be utilized.	Mike R OSM	Accept
3.1.5.2	3-31	10	Change "disposal fill" to disposal area. And include "or used to reclaim existing pre-law abandon mined land highwalls adjacent to the mine"	VA	Accept (see previous response to VA comment).
3.1.5.2	3-31	10	I suggest replacing "disposal fill" with "an excess spoil disposal area" to be consistent with §701.5 and 816/817.71.	Lane	Accept

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.1.5.2	3-31	2nd para.	"In steep slope areas, excess spoil from development…"	Mike R OSM	Accept
3.1.5.2	3-31	16	Should state "and dozers are then used"	VA	Accept
3.1.5.2	3-31	17	Recommend adding "or toxic forming" after "acid forming" to be consistent with the draft text of the stream protection rule.	EPA	Accept
3.1.5.2	3-31		Last sentence in second paragraph should read "Bucket Wheel excavators…."	Garnett	Accept
3.1.5.2	3-31		Third paragraph, last sentence (regarding special handling) seems out of place. The paragraph makes it sound like the special handling provisions are part of the cast blasting process.	Garnett	Delete sentence.
3.1.5.2	3-31	29-30	This is not accurate and is inconsistent with p.3-30, lines12-15. This is an incorrect definition of mountaintop removal mining.	Lane	Please review and make consistent.
3.1.5.2	3-31	29-32	This description of MTR is inconsistent with the description provided on page 3-30, lines 1-3. MTR, as defined here, requires the presence of an AOC variance. These definitions need to be consistent (e.g., area mining plus variance), particularly given the contentious nature of the term.	EPA	Duplicate comment.
3.1.5.2	3-31		The fifth paragraph (last in the section) refers to any mine the mines outcrop to outcrop as a mountaintop removal mine. This is not how mountaintop removal is defined in SMCRA or in our regs.	Garnett	Duplicate comment.
3.1.5.3	3-32	General	This section should indicate the limited extent/scope to which draglines are used in Appalachia versus the rest of US—currently only 3 in operation in Appalachian Region of OSM.	Mike R OSM	Accept. Please ensure text reflects current dragline usage.
3.1.5.3.	3-32	2	Please insert that "draglines are not widely utilized in Central Appalachia.	KY	Duplicate comment.
3.1.5.3	3-32	7	I suggest replacing "rope" with "cable" or deleting "by using the hoist rope".	Lane	Accept
3.1.5.4	3-33	General	Is this significantly different method than area mining? Description sounds the same—if little distinction, suggest deleting section.	Mike R OSM	Explain differences. This should be reviewed by ECSI and Morgan.
3.1.5.5	3-33		First paragraph of section, third sentence should read "This method takes advantage of the dozer's	Garnett	Accept

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			ability…"		
3.1.5.4	3-33	3-4	It should be noted that only the first cut of overburden is disposed in off-site storage; remaining cuts are backfilled behind the progressing operation.	KY	Accept
3.1.5.5	3-33	13	The term "construction-type equipment" is confusing. Road construction type equipment is used in all types of surface mining. This implies that dozer/scraper combinations are used exclusively in block area mining. I suggest deleting "uses construction-type equipment and".	Lane	Accept
Figure 3.1-21	3-34		Should identify equipment as Bucket Wheel Excavator—although not mentioned in the description for this type of mining—isn't it just area mining using different equipment spread? Maybe just mention these subsets (3.1.5.4 and 3.1.5.5) in passing at the end of section 3.1.5.3, instead of devoting separate sections.	Mike R OSM	Accept
3.1.5.6	3-34	2	Figure 3.1.21 is titled "Block Area/ Dozer-Scraper Operation", but is a photo of a bucket-wheel excavator. Dozers and scrapers are not in the photo.	Lane	Duplicate comment.
3.1.5.5	3-34	2	Photo in Figure 3.1-21 is a bucket wheel excavator and not a dozer and scraper operation	VA	Duplicate comment
3.1.5.5	3-34	Figure 3.1-21	Figure 3.1-21 looks like a bucket-wheel excavator to me	NM	Duplicate comment
3.1.5.5	3-34	Figure 3-21	This drawing is titled block area/dozer-scraper operation. This photograph is actually a bucket wheel excavator, and at this scale is not used in a small operation.	KJass	Duplicate comment
3.1.5.6	3-34 to 3-37		GENERAL-It appears that the narrative continually tries to make Area Mining and Mountain Top Removal Mining one in the same even though they are two completely separate types of mining.	VA	Reject comment. MTR and Area mining are very similar.
3.1.5.6	3-34		Should indicate that the post-mining configuration is "flat or gently rolling" to support "an equal or better public or economic post-mining land use."	Mike R OSM	Accept
3.1.5.6	3-34	4-9	This section is inaccurate for a number of reasons. It should be revised to be consistent with p.3-36 lines 1-10. The next comments are a suggested revision..	Lane	See response below.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.1.5.6	3-34	4-9	Revise to read: "Mountaintop removal mining (MTR), which is usually a form of area mining, involves removing an entire coal seam or seams from the upper fraction of a mountain, ridge, or hill, by removing all the overburden and creating a level plateau or gently rolling contour with no highwalls remaining. MTR operations receive a variance from AOC under certain requirements of the law. All excess spoil material not required on the mountaintop to achieve the approved post mining landuse is placed in approved excess spoil disposal areas."	Lane	Accept.
3.1.5.6	3-34	6-8	A MTR operation need not create a valley fill. The operation could find off-site disposal alternatives (e.g., in an existing impoundment, or on an existing area that was previously mined). Suggesting that MTR operations require fills is not accurate.	EPA	Reject comment. While EPA's suggestion is theoretically possible, in practice, due to economic considerations it has not and will not be practicable.
3.1.5.6	3-34	8-9	"The balance of the broken overburden is mandated by regulation to be placed onto the mountaintop area to achieve the post-mining land use" is completely wrong By regulation, if most of the spoil is placed back on top, then it would be area mining and not MTR.	KY	Accept.
3.1.5.6	3-35	1st para.	The confusion was created not by the use of the term in the MTM/VF EIS, but by the layperson seeing "tops of mountains" being removed (mined) without regard to the actual mining method applied. This section should clarify that the media and environmental community use the term mountaintop removal mining without regard to the specific meaning of the actual regulatory-defined MTR in SMCRA 515(c). The section also could point out that the use of true MTR in Appalachia is very limited (only 3 true MTRs currently in KY) but hard to categorize because most big surface mines are permitted as a mining "complex" with portions using contour, area, and some **may** have segments of MTR. State record-keeping often doesn't allow tabulation of the number of true MTRs in use. Could also cite GAO Report from: http://www.gao.gov/Products/GAO-10-21 "GAO-10-21: Surface Coal Mining: Characteristics of Mining in Mountainous	Mike R OSM	Accept comment. Some changes to text to indicate that the method is currently very limited in part due to the past decade of controversy, litigation, etc.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			Areas of Kentucky and West Virginia"		
3.1.5.6	3-35	1	Figure 3.1-22 is a cross section of a mountaintop removal operation that includes the hydrology. This section has only described the types of surface mining. The other types described do not have cross sections including the hydrology. This cross section also has stress fractures as a result of underground mining which is completely not related to the surface operation. For descriptive purposes, this diagram should only relate to mountaintop removal.	VA	Agree. Remove extraneous detail.
3.1.5.6	*3=35*	Figure 3.1-22	*This figure shows the hydrology which has yet to be discussed, along w/ the valley fills, all the coal seams (including underground mining), the original surface (pre mining) and the final AOC surface. There is way too much information in this top picture than is provided in the discussion in the adjacent paragraphs. Also suggest, if this drawing it to be kep,t from the top drawing, "Approximate Original Contour" on left be changed to pre-mining original topography and "approximate reclaimed mountain top" be changed to "reclaimed mountaintop approximating pre-mining topography".* *The bottom caricature in that same figure really doesn't need to be included as photograph 3.1-33 Photograph3.1-33 (page 3-36) provides a much better job of depicting the description of MTR on pages 3-35 & 3-36. I would simply add arrows pointing to active MTR area, areas of reclamation incuding approximating the mountain top, and the areas of excess spoil fill.*	KJass	Duplicate comment
3.1.5.6	3-35	12	Should include a sentence "However, contour mining, area mining and mountaintop removal mining are three distinct and separate types of mining"	VA	Accept
3.1.5.6	3-35	13	Recommend clarifying that operations "**may be**" granted an AOC variance rather than "are" granted. Such variances are not automatic.	EPA	Accept
3.1.5.6.	3-36	3-7	KYDNR is perplexed why it is stated that this DEIS will refrain from using the misnomer "mountaintop mining" and yet uses this term	KY	Accept. Use the term from GAO report.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			just 4 lines down in the Figure 3.1-23 heading of Mountaintop Mining. KYDNR prefers the term "mining in mountainous areas" as used in the national GAO reports on coal mining.		
3.1.5.6	3-36	2nd full para.	Suggest: " Reclamation of an MTR mine creates a level plateau or gently…."	Mike R OSM	Accept
3.1.7.1	3-36	24	I suggest deleting "by dozers or scrapers". Topsoil is redistributed with other equipment in addition to dozers and scrapers.	Lane	Accept
Figure 3.1-23	3-36		Do you mean Mountaintop Removal Mining and Reclamation Operation? Are you sure it wasn't permitted as an AOC job?	Mike R OSM	Accept
3.1.5.6	3-37	1-3	The accuracy of this statement depends upon the scale of the operation.	VA	Accept. Please define limitations
3.1.5.7	3-37	6 and 22	I suggest deleting "beneath". Coal is not extracted beneath the resulting highwall when the desired stripping ratio has been reached. Coal is extracted horizontally beyond the existing highwall.	Lane-OSM	Accept
3.1.5.7	3-37	24	I suggest replacing "miner" with "highwall miner".	Lane-OSM	Accept
3.1.5.7	3-37	Par 5 "A continou s highwall	"front set of rotary cutting heads that cut coal" I know of no continuous miner that has more than one cutting head. This should be changed to: " front rotary cutting head that cuts coal…"	KJass	Reject comment. New equipment with multiple heads does exist and may be used.
3.1.5.7	3-37	29	"expedited" should be "expected"	NM	Accept.
Figure 3.1-24	3-38		Mislabeled "Underground Mining Methods." Highwall should be more vertical and surface mining bench indicated (wider than scale of equipment shown, typically). Should reorient pattern used to represent strata or use different indication of horizontal lithology.	Mike R OSM	Accept
3.1.5.7	3-38	Figure 3.1-14	The picture includes "Underground Mining Methods" which should be removed. This piece of equipment was originally designed exclusively as underground equipment, it has been modified for use as a surface mining piece of equipment.	KJass	Accept
3.1.5.7	3-38	Par 1	"Normally, highwall mining can only be conducted	KJass	Accept. Please revise text accordingly.

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			in a down-dip direction to prevent excessive dewatering of the overlying strata or potentially dangerous dewatering and contamination from intersection of deep mine workings." It took me a minute to realize the intent of this discussion. To clarify the safety aspect, mining down-dip keeps the water in the mine so it doesn't flow down hill, out of the mine over the equipment and operators.		
3.1.5.8	3-38	3.1.5.8	"Ditches are constructed on the uphill sides of haul roads to collect runoff, and culverts placed at intervals to convey runoff under the road to the downhill side." In western and mid-western mines, where the topography is significantly flatter, ditches are constructed on both sides of each road, and the surface of the road is crested to allow for drainage to both sides. "Additional small service roads" – per regulations, these are called ancillary roads, which have minimum standards which must be met as well as the primary (access and haul) roads.	KJass-OSM	Accept
3.1.6	3-38	3.1.6	"If available in sufficient quantity, topsoil is removed and segregated.." According to regulation there is no "if", topsoil will be removed and segregated for subsequent use in reclaiming the mine.	KJass-OSM	Accept. Revise text to reflect the requirement to segregate topsoil.
3.1.6	3-3	Par 4	any of several types of steep-slope fills: "valley," "head-of hollow,"and "durable rock." The rule change for which this EIS is being done has removed these 3 fill terms and simply made these	KJass-OSM	No changes necessary.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			all excess spoil under the same regulation. So this EIS will address these 3 fill types that exists presently.		
3..1.7	3-39	Whole section	*As written this EIS discusses 3 types of excess spoil disposal sites – valley fill, head of hollow and durable rock fill which currently exist and were built to the current regulation standards. However, there is no mention made in this proposed EIS that in the future the change to the regulations will only provide for the construction of excess spoil structures, now built to more stringent requirements (816.71) The old sections (816.72 valley fill/head of hollow and 816.73 durable rock fills) are being removed and the construction criteria for any type of excess spoil structure will now be addressed under the more stringent requirements of 816.71.*	KJass-OSM	EIS must look at current regulatory structures as well. No changes necessary.
3.1.7	3-39	2-3	The swell factor is a quantitative mathematical representation of the gain in volume commonly known as swell. I suggest revising this sentence to read: "Therefore, the volume...that was in place prior to mining. This increase in volume is commonly known as swell."	Lane-OSM	Accept.
3.1.7	3-39	1st para.; 1st sent.	This statement is no longer true, as most states are requiring "bottom-up" placement. Suggest: "The predominant valley fill construction technique in steep-sloped Appalachia over the past several decades has been ~~is~~ the durable rock fill method. Because of the recent regulatory push to reduce the size of valley fill footprints (stream length disturbed/eliminated), reduce erosion, and to more contemporaneously reclaim front faces of fills, most Appalachian steep-slope states are requiring valley fills "bottom-up" construction in lifts.	Mike R OSM	Accept changes
3.1.7	3-39	2nd para.; 1st sent.	Suggest: "Before the enactment of the SMCRA, much of the excess spoil was pushed over the outslope below the mining bench."	Mike R OSM	Accept.
3.1.7	3-39	2nd	Suggest: "Since the passage of SMCRA, regulations	Mike R OSM	Accept

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
		para.; 2nd sent.	require increased engineering efforts directed toward design and construction of excess spoil disposal areas to ~~improve safety~~ promote free-drainage and improve mass stability.		
3.1.7	3-39	17	I suggest replacing "valley fill construction technique" with "method of excess spoil disposal".	Lane	Accept
3.1.7	3-39	3rd para.; 2nd sent.	Suggest "The term "Hollow Fill" has been used interchangeably with each Method, particularly in Kentucky."	Mike R OSM	Accept
3.1.7	3-39	21	I suggest deleting "disturbed area" and replacing it with "mined out area".	Lane	Reject. Disturbed area can include more than the mined area.
3.1.7	3-39	Par 5	"steep-sloped Appalachia" because the Centralia mine in Centralia, WA constructed a valley fill in its steeply sloped terrain, this should be reworded to address areas outside of just Appalachia. Change to: "Steep-sloped, mountainous areas is.."	KJass-OSM	Accept.
3.1.7	3-39	Par 6 – "Before the...	"SMCRA, much of the excess spoil was pushed over the slope". Prior to SMCRA there was no need to even keep material to restore the pre-existing topography, so it wasn't yet known as excess; it was just material that was not needed & in the way of mining – thus "shoot & shove"	KJass-OSM	Duplicate comment.
3.1.7	3-39		The introductory section **3.1.7** should generally describe the 2:1 outslope, 50-foot terrace, stability (static/dynamic F.S.) and (100-yr 6-hr storm) drainage control requirements. The requirement for key-way cuts and buttresses where foundations are >2.8:1 could also be mentioned.	Mike R OSM	Accept. Please revise accordingly.
3.1.6	3-39		Last sentence: "...and are explained ~~in detail~~ below."	UT	Accept.
Figure 3.1-25	3-40		Suggest relabeling drawing "Typical Valley Fill Design" or "Typical Durable Rock Fill," inasmuch as a true *head-of*-hollow fill is built in lifts, has a rock chimney drain, is less than 250K c.y., etc. If labeled the formed, the drawing might also be	Mike R OSM	Accept.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			shown with horizontal lines representing lifts instead of a homogenous fill pattern.		
3.1.7	3-40	Figure 3.1-25	*This figure has a lot of stuff on it, and at 8.5X11' size paper, it will be illegible. I would suggest using the plan view and the end cut showing how the valley is filled with material.*	KJass-OSM	Reject comment. However, ensure that the figure is legible and understandable.
3.1.7.1	3-40	General	There may also be allowed by some states a lift-type fill, where the underdrains are placed and each lift may be greater than 4-feet and up to fifty feet, end-dumped if it is durable. In that fashion, the front face can be completed in phases and terraces are created by stepping back and dumping the next lift on top of the successive completed/reclaimed lift. Could also mention WV's fill with a "erosion protection zone" to catch erosion and sediment; which must be removed at end of upstream construction unless 404 allows retaining it.	Mike R OSM	Accept.
3.1.7.2.	3-40	14-16	KYDNR believes that the description of a head of hollow fill is incorrect by stating it contains a chimney drain. Very few, if any of, Kentucky's head of hollow fills have been constructed with a chimney drain.	KY	Accept. Please qualify language.
3.1.7.3	3-40	2nd para.	"Wing dumping" is not allowed to occur in most states but for so far in front of the advancing dumped face. This is because, if the excess spoil calculation was off, the excess spoil needed to create a final face perpendicular to the stream could be insufficient and a concave face result, which may affect drainage control and/or stability in addition to needlessly disturbing downslope areas.	Mike R OSM	Accept. Revise text to indicate that wing dumping is only allowable in most states in proximity to the advancing dumped face.
3.1.7.3.	3-41	18-19	It should be noted that in many cases wing dumping is not allowed and may be a violation of Kentucky regulations.	KY	Duplicate comment.
3.1.7.3	3-41	Par 5 – "The design phase..	"The design phase of a durable rock fill must demonstrate that the structures will comprise 80 percent durable rock by volume. The successful long-term performance of the fills is directly related to the strength and durability of the rock in the fill mass and rock drains. Durable rock is	KJass-OSM	Accept.

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			defined in Federal regulations at 30 CFR 816 / 817.73(b) as rock which does not slake in water and will not degrade to soil material." This has already been stated in paragraph 1 of this section.		
3.1.7.3	3-41	Par 6 – "The regulatory intent...	" Several State and Federal inspectors, engineers, and geologists have considered that the SDI may not accurately discriminate durable and non-durable rock." Why is this in here – that this standard may not be meeting its usefulness? Is there a better alternative available?	KJass-OSM	Reject comment. Statement is accurate.
3.1.7.3	3-42	1	Is there any documentation to support this statement: "To-date, the occurrence of significant mass movements on all types of valley fills is minimal"? (I see there is a summary of fill stability in steep slope operations in the Appalachian region. What about fills in other mining regions?)	Barcley-OSM	Please document the supporting evidence.
3.1.7.4	3-42	3	This type of spoil placement is not typically used anymore. Now the entire AML bench/highwall is reclaimed to avoid placing excess spoil in valley fills.	VA	Please revise text to note that in some areas, spoil is placed on unreclaimed AML features to avoid placement in excess spoil fills.
3.1.7.4.	3-42	13-18	KYDNR believes it would be more appropriate to gather fill data from the last five years rather than from 2001-2005. This information is readily available from annual OSM/State reports. KYDNR also believes that the number of approved (permitted) fills is misleading as no information on constructed fills is given. Based on state/federal studies, it is estimated that 40-60% of the Kentucky	KY	Accept. See data in next comment.

<table>
<tr><th>Section</th><th>Page #s</th><th>Line #s</th><th>Comment</th><th>Incorporate (Yes/No)</th><th>Proposed Disposition</th></tr>
<tr><td></td><td></td><td></td><td>permitted fills are NOT constructed.</td><td></td><td></td></tr>
<tr><td>3.1.7.5</td><td>3-42</td><td></td><td>Trends in Excess Spoil Disposal - As currently written the text states "Recent information shows a trend towards less numerous fills and smaller fills.....Kentucky declined (262 to 92)....average size of the Kentucky fills continues to show a general decline (from 19 to 7 acres)."

Information available to the Lexington Field Office is in conflict with statement regarding the declining size of fills. Also, the number of fills does not match, but this might be due to criteria for counting, i.e. permitting vs. built.

Annually, LFO compiles a Fill Inventory that includes information on number of fill permitted (not necessarily built), average size, watershed acreage, etc. The numbers from these inventories do not match the numbers presented in the draft EIS. See Table :
<table>
<tr><th>CY</th><th>#Fills Permitted (not necessarily built)</th><th>Avg. Acres Surface Mine</th><th>Avg. Acres Underground Mine</th></tr>
<tr><td>2002</td><td>336</td><td>12.69</td><td>5.89</td></tr>
<tr><td>2005</td><td>226</td><td>15.46</td><td>3.14</td></tr>
<tr><td>2006</td><td>312</td><td>14.93</td><td>3.41</td></tr>
<tr><td>2007</td><td>259</td><td>13.9</td><td>3.01</td></tr>
<tr><td>2008</td><td>246</td><td>13.6</td><td>2.91</td></tr>
<tr><td>2009</td><td>104</td><td>21.02</td><td>46.08</td></tr>
</table></td><td>AR-OSM</td><td>Accept.</td></tr>
<tr><td>3.1.7</td><td>3-42</td><td>16-18</td><td>Virginia information listed is misleading. Please insert a sentence to clarify relative size of fills - in Virginia, fills are typically less than <1 mcyds with small footprints.</td><td>VA</td><td>Accept</td></tr>
<tr><td>3.1.7.5</td><td>3-42</td><td>3rd para.</td><td>The SBZ EIS has additional trend data after 2005 that is not reflected in this section.</td><td>Mike R OSM</td><td>Accept. Please use pertinent data from 2008 EIS.</td></tr>
<tr><td>3.1.7.6</td><td>3-43--46</td><td>general</td><td>This section seems like a mixed bag of stability and somewhat uneven treatment of new requirements in states. Suggest separating into 2 different sections. Should also explain that WV and KY fill optimization was in part due to AOC studies that showed over-permitting fills, and in part due to increasingly more stringent CWA 404 requirement to minimize stream impacts.</td><td>Mike R OSM</td><td>Accept. Please revise accordingly.</td></tr>
</table>

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.1.7.6	3-43	30	..." (redistribution of the spoil from ~~form~~ one part of the fill to another..."	UT	Accept.
3.1.7.6	3-43	34	"(e.g. not more ~~that~~ than one bench on the fill face)"	UT	Accept
3.1.7.6	3-43	Par 4 – "For the purpose s	"of the spoil form one part" this should be FROM	KJass-OSM	Accept
3.1.7.6	3-44	13-14	The following statement is not a complete sentence: "For example, an underdrain system of a durable rock fill is likely inadequate when insufficient amount of durable rock and/or unaccounted for subsurface drainage."	Barcley-OSM	Accept. Please revise to complete the sentence.
3.1.7.6	3-44-3-45		Why describe KY RAM 145 and not mention WV AOC plus?	WV	Accept. Please revise to recognize WV AOC plus approach.
3.1.7.6	3-44	29	"...(8) additional studies of completed fills; and~~,~~ [no comma]..."	UT	Accept
3.1.7.5	3-44	31-37	This paragraph is largely a duplicate of page 3-42, lines 30-36. Not clear why the majority of this paragraph needs to be included twice.	EPA	Accept. Delete duplication unless there is an overriding reason for repeating it here.
3.1.7.7 and subsequent sections	3.46		Seems like this and following sections are numbered incorrectly and should be 3.1.8, etc.	Mike R OSM	Accept. Consider revising organization.
3.1.7.7	3-46 to -47		The subsection titled "3.1.7.7 Mine Reclamation" seems out of place within Section 3.1.7 Excess Spoil.	UT	Duplicate comment.
3.1.7.7	3-46	1st para.	Mine reclamation is the process of backfilling, regrarding..."	Mike R OSM	Accept.
3.1.7.7	3-46	4	"Mine reclamation is the process of backfilling, ~~regarding~~ regrading and planting vegetation on a disturbed"	UT	Duplicate comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.1.7.7	3-46	1st line in subsection	Change "regarding" to "regrading."	Barcley-OSM	Duplicate comment.
3.1.7.7 Mine Reclamation	3-46	4	The word *regarding* should read *regrading*.	TX	Duplicate comment.
3.1.7.7	3-46	Par 2 "Mine Reclam. PAR 3	"backfilling, regarding and planting" Should be REGRADING "Backfilling" It isn't really stated, but most of this page refers to restoration of a SURFACE mine. It may be confusing if backfilling were tried to be explained with the concept of underground mining.	KJass-OSM	Duplicate comment.
3.1.7.7 Mine Reclamation	3-46	13	The statement "almost all sites generate excess spoil that must be hauled to valley fills..." does not characterize surface mining operations which do not generate excess spoil, such as in the Gulf Coast region.	TX	Accept. Please revise to qualify and limit statement or include specific reference to coal mining operations which do not generate excess spoil.
3.1.7.7 Mine Reclamation	3-46	22, 29	The description of topsoil substitute (rock-based material broken up by passage of tracked equipment) appears to only characterize topsoil substitution in the eastern United States rather than other regions, where unconsolidated overburden material is used.	TX	Accept. Please revise to reflect broader topsoil substitution practices.
3.1.7.7	3-47	FRA para.	Citation should be OSM's web site, not VPI: http://arri.osmre.gov/PDFs/Pubs/FRA_No.2.7-18-07.Revised.pdf	Mike R OSM	Accept.
3.1.7.7	3-46	"Backfilling"	"Almost all sites generate excess spoil that must be hauled to valley fills or other disposal fill types adjacent to the immediate mining area." This sentence is very broad and assumes that all mining generates excess spoil. NOT TRUE. Western surface mines, because of the thickness of coal seams removed, does NOT generate any out-of-pit spoil. The exception is WA state, where in	KJass-OSM	Accept

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			mountainous terrain, one operation does have a couple of valley fills, the other has some stockpiled out of pit spoil.		
		"Regrading"	"the leveling of spoil areas" – rather than leveling, use "reshaping and movement of spoil matieral"		
		"Topsoil Redist"	"preparation of a rock-based topsoil substitute, if topsoil replacement is not employed". Western topsoil substitute material is generally not considered rock-based material. It is simply a substitute overburden soil that meets suitability criteria for use as topsoil, because 1) there is no "Horizon A topsoil" prior to mining, 2) what is available is very limited or inconsistently found prior to mining, or 3) is of such poor quality that substitute material is approved as the suitable rooting material in lieu of actual topsoil. But the last part of this paragraph hits on this exact problem, so perhaps simply removing the rock-based discussion is enough to clarify the concept. "redistributed by dozers or scrapers at an application rate determined by available quantities, usually between 4 and 12 inches." Based on the preceding comment, the last section of this (the specific depth) must be removed, as this thickness does not apply to most mines in the west (and actually may be the approved substitute in some quantity).		

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		Reveget ation	"is amended with fertilizer" Again, this may be the standard requirement in the east, but it is not a requirement in the west. REMOVE "with fertilizer" to simply say the soil is amended "Planting is normally conducted by hand" Is this action specific to planting of trees & shrubs??		
3.1.7.8	3-47	26	"some" should be replaced with "most" as evidenced by your statement on 3-48 line 18.	WV	Accept
3.1.7.7	3-47	Par 1 Par 3	"postmining land use change must be approved." As this is the revegetation section, should this be here & not under grading? Also, w/ the pmlu change, it may have a different requirement for plants suitable for that change – such as wetland types or riparian. "Most coal-bearing lands in the Appalachian region were forested prior to mining. As a result of research and recent changes in regulatory policy, many surface coal mines are now being restored to native forest after mining using the Forestry Reclamation Approach. For additional information on FRA, the reader is referred to the Appalachian Regional Reforestation Initiative web page at http://arri.osmre.gov/." These practices are also required for western mines, in AK & WA so perhaps this statement should state that pre-mining lands that were forests are being returned to that state using this new practice.	KJass-OSM	Accept

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3.1.7.8	3-47	PAR 4 – "Both UG..."	"underground and surface mine coal may contain rock or excessive sulfur and not be suitable for immediate use by the consumer in its state at the mine mouth." It took me a minute to realize this refers to MINED coal. CHANGE: "Mine" to "MINED" "rock and blend with" This should be "OR blend". Centralia Mine, WA washed their coal to remove rock, but it went directly to the powerplant after that to be used without being blended.	KJass-OSM	Accept
3.1.7.8	*3-48*	Figure 3.1-26	*This photograph shows an overview of a preparation plant w/ the belt line to the stockpile, some crushers w/ stacker tubes (I think) and an impoundment above a valley fill. There is no labeling of any structure – though the title is Coal Preparation Facilities. However, as the description is pretty straight forward, I don't think this photo is needed.* *Also in this section the use of processing facilities, wash plant and preparation plant are used interchangeably. I understand this but does the general public, particularly ones that don't live in a coal mining community?*	KJass-OSM	Accept in part. Please label features in the photo.
3.1.7.9	3-48	1st para., 1st sent.	Suggest: "Reject material, or coal mine waste or refuse (rock separated during ~~from~~ the cleaning of coal, often consisting of shale), is typically disposed of off-site near ~~of~~ a coal processing facility due to fill storage capacity ~~land occupancy~~ requirements.	Mike R OSM	Accept
3.1.7.9	3-48	9	Scalp rock is typically disposed of at or near the mine site. Refuse from coal processing is typically stored at or near the preparation plant, which may be near or off-site of the active mining operation.	VA	Accept
3.1.7.9	3-48	Par 2	"disposed of off-site of [should this be IN] a coal	KJass-OSM	Accept in part. There are at least a few preparation plants being

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			processing facility" This is the same term used above to process the coal. Perhaps this should be identified as a "coal processing waste storage facility" BUT unlike eastern properties, western facilities are within the permit and are not off-site. "Under normal circumstances, about 10 to 15 percent of surface mine output will go to a processing facility for cleaning and blending, and the rest will be transported directly to the shipping point." This is definitely an Eastern thing – There are NO surface coal mines in the west process their coal (other than to crush) prior to shipping. Please correct this general statement which applies strictly to specific areas of the county.		planned for western mines. Thus it should indicate a more regional standard for processing of surface mined coal and an indication that the use of coal preparation may increase in other regions in the future.
3.1.7.9	3-48	13	I suggest replacing "New material accumulates" with " fine refuse material in a slurry form is pumped".	Lane	Accept
3.1.7.9	3-49	1st para., last sent.	Suggest: "..in a series of lifts as new the fine coal waste is deposited as a slurry material in the impoundment formed ~~accumulates~~ behind the embankment.	Mike R OSM	Duplicate comment.
3.1.7.9	3-49	Par 2 – "Refuse with..."	"refuse impoundment behind the berm" Earlier drawings show berms on roads and mountainside working areas – it has not been defined to be either the equipment barrier nor as, in this case, the constructed embankment. Please correct this. Also, "refuse impoundment" in this sentence has been interchangeably used as "coal processing waste storage facility", as specified in the previous	KJass-OSM	Accept

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		Par 3	comment. New term: "coal processing waste" used as above. Either identify all terms or stick to one throughout the discussion. CHANGE TO "drilled wells, [ADD: are] used to place slurries and solids in underground mines [ADD: which] considered mine backfill [ADD: material]. "Such [ADD" backfill] wells [ADD: to transport these waste materials] may be used to..."		
3.1.7.9	3-49	4	I suggest replacing "berm" with "embankment".	Lane	Duplicate comment
3.1.7.10	3-49	Last Par	"Coal refuse is a low BTU-value material generated by the coal mining process." I gather this use of the term coal refuse is the solid rock that is separated out not the slurry material produced after the material has been chemically processed, as the term was used earlier. Please clarify what this material is & how it is generated.	KJass-OSM	Acccept
3.1.7.9	3-49		**Coal Refuse Disposal Facilities** - Text addresses % of surface mine output that will go to a processing facility for cleaning and processing. Since underground mines are the largest contributors of reject, suggest that a similar discussion of % of output be added to the text.	AR-OSM	Accept
3.1.7.9	3-49	17	It's not clear what the "state and USEPA Regional survey conducted for this study" refers to. Is this an effort related to the 2008 EIS, or a new endeavor conducted to support this EIS? Or is it the 1999 study described later in the paragraph? If so, are there any new data over the past 11 years on this topic?	EPA	Accept. Please ensure the text reflects what study is being referred to and use the most recent available data.

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3.1.7.9	3-49	17-29	Explain in more detail.	WV	Reject. Not sure what the commenter wanted.
3.1.7.9	3-49	22	Recommend adding "pursuant to the Safe Drinking Water Act" after "EPA" within this sentence to clarify the statutory authority for this permitting requirement.	EPA	Accept
3.1.8	3-50	19-21	Not all bond amounts are determined based on a "worst case" scenario basis. I suggest revising to read: "Bond amounts may range from a few hundred thousand dollars to many millions of dollars".	Lane	Accept, although "worst case" is generally used.
3.1.8	3-50	24	"Phase 1 bond releases are granted after satisfactory backfilling and ~~regarding~~ regrading have been completed on the disturbed area."	UT	Accept.
3.1.8.	*3-50*	24	"backfilling and regarding" should be corrected to "backfilling and regrading"	KY	Duplicate comment
3.1.8	3-50	37	As stated, this is a federal requirement. Some state regulatory programs may differ from this requirement.	VA	Clarify that this is a federal requirement.
3.1.8	3-50	2nd para., last sent.	Suggest: "Phase 3 releases are granted after the approved post-mining land use ("PMLU") and water quality standards for runoff leaving the permit area are ~~is~~ met (i.e. the mine site meets all performance standards and conforms with the approved permit reclamation plan).	Mike R OSM	Accept
3.1.7.10	3-50	Par 2	http://www.msha.gov/Impoundments/DesignManual/Chapter-2.pdf This link is in a section of text which describes remining. I'm not sure this link to the construction of slurry impoundment criteria has be inserted in the correct location of this document.	KJass-OSM	Accept. Please ensure this is referenced in the proper location.
3.1.8	3-50	Par 3	"provide funds for the government to complete the" REPLACE: "government" WITH "regulatory authority".	KJass-OSM	Accept

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		Par 4	" Bond amounts are based on a "worst case" [INSERT: reclamation cost estimate] scenario in relation to the maximum amount of disturbed area open at any one given time and may range from a [ADD: minimum of $10,000][REMOVE: few hundred thousand dollars] to [ADD: hundreds of] [DELETE: many] millions of dollars. "bond [ADD: must] [DELETE: should] be sufficient to assure the completion of the reclamation plan if the work had to be performed [ADD: under contract of] [Delete: by] the regulatory authority in" "Reclamation bonds [ADD: may be] [DELETE: are] released [ADD: , generally in three] phases [ADD: as defined in SMCRA, and dependant on the extent of reclamation completed as approved.]" "Phase 1 bond releases are granted after satisfactory backfilling and regarding" CHANGE TO: REGRADING. Phase 2 releases are granted after completion of [REPLACE: revegetation with TOPSOILING] activities. Phase 3 releases are granted after the approved post-mining land use ("PMLU") is met (i.e. meets all performance standards and the approved permit plan) [ADD: vegetation has been established for		

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			the required amount of time (5 years east of Mississippi and 10 years west of the Mississippi), and the ponds have been removed.] "...federal, state, or municipal bonds; and investment-grade securities), and self bonds" The federal rules do not specifically address the acceptance of investment grade securities – however, no RA's that I know of allow these because of the potential for fast change in their values. These must be removed from the list of items that can be used as performance bond. Perhaps listing all of the choices allowed is too detailed – stick w/ what's listed in regs as allowed types w/ reference to the regulations if anyone is really interested.		
3.1.8	3-50	Par 6	"To remain qualified, self-bonded permittees must maintain a tangible net worth of at least $10 million, possess fixed assets in the U.S. of at least $20 million, and either meet certain financial ratios or have an "A" or higher bond rating." This list includes pieces of the three financial test criteria, of which the guarantor must fully meet only 1. In addition, there are contracts that must be signed and other requirements (including 5-yr life of the entity, amount of self bonds no great than 25% of TNW in the US, and financial in USGAAP format) which have not been identified in this section.	KJass-OSM	Accept. Please make appropriate revisions.

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			"The regulatory authority [MAY] reduce the market value of collateral by a margin sufficient to cover the regulatory authority's cost to liquidate the collateral in the event funds are needed for reclamation". This practice may be happening at state levels, but the federal regulations do no require this practice (though it is a wise one).		
3.1.8	3-50--53	General	Suggest section 3.1.8 be subdivided into additional sections. No discussion of bonding for water treatment.	Mike R OSM	Evaluate appropriateness of further subdivision of this section.
3.1.8	3-51	Par 3	[See 30 CFR Part 800 for Office of Surface Mining (OSM) regulatory requirements]. Also see OSM Directive REG-28 (http://www.osmre.gov/guidance/directives/directive525.pdf)g	KJass-OSM	Accept
3.1.8	3-52		GENERAL—this section may read better by separating out the different types of bonding instruments and their descriptions instead of discussing them jointly in the same paragraph or sentence.	VA	Accept
3.1.8	3-52	Par 4 Par 5	"which is updated annually on July 1 and can be viewed and downloaded at ww.fms.treas.gov/c570" I think you need to add that it is updated periodically so the list is always current, otherwise as written it can be assumed this list gets old & outdated which isn't true. "third party to complete [ADD: the work needed to meet the requirements of] the reclamation plan" "Prior to disturbing new acreage [ADD: not considered in the reclamation cost estimate], the	KJass-OSM	Accept

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		Par 6	permittee…" "typically requires five years [ADD: in the eastern US and 10 years in the western US] after.."		
3.1.8	3-52	22	Change "bonding requirements section 509 of SMCRA" to "bonding requirements *of* section 509 of SMCRA".	Barcley-OSM	Accept
3.1.8	3-53	2	UDOGM has interpreted the revegetation success rules as requiring less time to achieve bond release in the case of industrial/commercial post mining land use. i.e. For industrial uses within 2 years of grading, vegetation success equals the vegetation cover necessary to control erosion.	UT	Reject. No changes necessary
3.1.8.1	3-53	14	Sentence should also include "fails to complete all reclamation obligation…***and available conventional bond funds (surety, letter of credit, etc.) are inadequate to complete the required reclamation.***	VA	Accept
3.1.8.1	3-53	Par 1 Par 2	"Additional time [ADD: to meet release criteria is met] may be required for attainment of certain PMLUs, such as commercial forest land, industrial, commercial, etc. Generally, once mining has begun on large sites, the only feasible reclamation plan is to complete the mining according to the original plan." Sentence 2 of this statement is incorrect. There is nothing in the regulations which prohibits a permit revision to a SMCRA permit, including a change to the pmlu if all criteria is met in the application and supporting documentation. post a bond covering" CHANGE TO: "post an individual bond covering"	KJass-OSM	Accept

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			"reclamation obligations. [ADD: In addition, the TN federal program now includes an alternate bonding system process to ensure financial assurance to cover the cost of treating acid mine drainage beyond the life of the coal permit.] Under OSM…"		
3.1.9	3-53 thru 3-74	Starting with 20	The content of this section does not reflect its title "Mineral Resources and Mining by Region", as it infers both minerals and mining operations other than coal. Unless non-coal minerals were previously determined to be insignificant or unimpacted by the proposed rulemaking, other mineral resources should be discussed to some degree under this section, particularly considering federal mineral interests in western states. Oil, natural gas, and coalbed methane resources are usually more closely tied to coal geology than other mineral resources. In federal lands in Utah, coal and oil and gas resources often overlap, and unless previously determined to be insignificant, should (at least) be considered for evaluation with the other resources, since they have significant economic value. In Utah and other western states, the Bureau of Land Management would be a good source for this type of information.	UT	Accept in part. A general statement to address the issues raised by this comment should be added to the discussion.
3.1.9	3-54	1	The pie chart showing production by region is very helpful. This would be a logical place to show a similar pie chart documenting reserves by region.	UT	Accept.
3.1.9 3.1.9.1	3-54 & -55 -56	Figure 3.1-27, -28, -29 -30	Again, these colors will not show up on b&w copies of the EIS, should use symbols instead so all can understand graphs regardless of color of printed or on-line EIS. Also, section 3.1.9.1.2: page 3-60, figure 3.1.32; Pg 3-66, figure 3.1.36; page 3-63, figure 3.1-34; page 3-69, figure 3.1-38;	KJass-OSM	Accept
3.1.9	3-55	1	Figure 3.1-28 does not appear to correspond to Figure 3.1-29. The Appalachian Basin is listed as the second highest production region in the top figure at just under 400,000,000 short tons in 2008. The Appalachian basin is not even listed on the bottom graph for that same year. What is denoted as	VA	Accept

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			the Illinois Basin on this graph has the same ton production as listed on the first graph for the Appalachian Basin (which is also 4 times more than is listed for the Illinois Basin on the first graph). Have the items been mislabeled?		
3.1.9	3-55	4-5	Figure 3.1-29 appears to omit the Appalachian Region from the graph.	EPA	Duplicate comment
3.1.9	3-55	-----	Figure 3.1-29: The legend is incomplete; each data set has 7 bars; the legend contains only 5 regions.	KY	Duplicate comment
3.1.9	3-55	5 (Fig 3.1-29)	The legend for this figure is incomplete - Appalachian Basin and Colorado Plateau labels are missing.	UT	Duplicate comment
3.1.9	3-56	n/a	Figure 3.1-30 Map of Appalachian Basin, but only shows north and central basin, omits southern basin, per lines 17-18.	VA	Accept
3.1.9.1.1 Figure 3.1-30	3-56	1st para., 1st and 2nd sent.	The coal "zones" shown in the figure and listed in the narrative are only "selected" zones from USGS publications. There are other intermediate and deeper seams considered part of the Appalachian coal basin zones (e.g., No. 5 Block, Stockton and Coalburg, Winifrede/Hazard, Williamson/Amburgy, Campbell Creek/Upper Elkhorn No. 3, and Upper Elkhorn Nos. 1 and 2/Powellton). Suggest revisions, at a minimum, that the 1st sentence read: "...six selected coal producing zones ~~regions~~,..." Delete the second sentence, as the referenced figure provides that info.	Mike R OSM	Accept
3.1.9.1	3-56	8	The map of the Appalachian basin needs work. There are many more coal seams that the 6 given in the legend. Also the entire basin is not shown as it does not show Alabama, Georgia and southern Tennessee coal fields. See Figure 3.2-3.	Lane	Accept
3.1.9.1	3-56		Figure 3.1-30 is labeled as a map of the Appalachian coal basin but only shows a portion of the basin (cuts off the southern Appalachian Basin.)	Garnett	Duplicate comment
3.1.9.1.4	3-57; 3-58	31-37; 1-10	Include recovery % as in the Extraction Method section for the Colorado Plateau	UT	Accept

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3.1.9.1.2	3-57	General	The section seems to be mixing coal "beds" and coal "zones". Not clear without looking at the source reference material whether those resources listed as coal beds are actually multiple beds from coal zones. I do not believe (see comment above) the "selected" zones shown/mentioned represent all of the coal zones in Appalachia. If so, the reserve amounts under Federal lands may be misstated. Shouldn't this section state the amount of private lands over coal; state lands? Shouldn't there be a section discussing major mineral owners controlling a majority of the reserves?	Mike R OSM	Accept
3.1.9.1.2	3-57	1-21	In addition to clarifying that many coal reserves are owned by Federal owners, this section should also characterize the private/state/etc. owners of coal reserves as well. For example, in West Virginia and Kentucky, a significant proportion of lands are owned by out-of-state land holding companies, an important detail that is not at all mentioned here. Existing research certainly exists as to the types of landowners in this region.	EPA	Accept
3.1.9.1.4	3-57	33	On line 6 of 3-36, "This DEIS does not use the term 'mountaintop mining'..." Then on the listed page and line, "Surface mining in this region utilizes area mining and mountaintop mining methods using draglines, trucks and shovels, and front-end loaders." It is unclear to what mountaintop mining refers.	VA	Accept. Please ensure consistency in use of terminology.
3.1.9.1	3-57	33	This sentence references mountaintop mining even though page 3-36 lines 5-6 states "This DEIS does not use the term "mountaintop mining".	Lane	Duplicate comment.
3.1.9.1.3	3-57	Par 4	Sentence 3 – "The majority of the coal resources in this region [,] located in thick bedswith low to medium sulfur content and high Btus [,] has been mined. ADD comma's as written.	KJass-OSM	Accept
3.1.9.1.4	3-57	All of section 3.1.9	"40% of the production in the Appalachian Basin in 2008 and" See earliest comments above – update w/ 2009 information from EIA.gov This is also true throughout section 3.1.9 & all subparts: use of 2008 stats? Granted this is most	KJass-OSM	Accept. Please use updated data.

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	3-58		recent from EIA, but state should have data for the 2 yrs since this was published.		
		footnote	*Why not put footnote 7 on this page where reference is located?*		
		Par 1	*Is the WV "42" still current as of this date or is this a 2008 # as well? Otherwise, provide the date this was current.*		
			"Room-and-pillar mining using continuous miners is common in smaller resource areas and some small operations mine in beds above or below previously mined areas." I thought I had read in the early section of UG mining that multiple seams were NOT allowed in some cases. If this is valid then between the 2 statements clarification is needed.		
3.1.9.1.4	3-58	1st para. 2nd sent.	I don't understand the relevance of the highlighted part of this sentence: "Room-and-pillar mining using continuous miners is common in smaller resource areas and some small operations mine in beds above or below previously mined areas."	Mike R OSM	Please revise sentence to ensure meaning is clear.
3.1.9.1.4.	3-58	2nd para.	I don't understand the highlighted part of this sentence: "In addition, auger and highwall mining was once common in this region, but production by this method has declined as most have caught up with the final highwalls."	Mike R OSM	Please revise sentence to ensure meaning is clear.
3.1.9.1.4	3-58	9	Highwall mining is fairly common in WV.	WV	Accept.

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3.1.9.1.5	*3-58*	11-16	Where did this data come from? Is it permits or mines?	WV	Please clarify source in text.
3.1.9.1.5	3-58	General	This section says nothing about "Mine Size," other than 12 mines produce x% of regional production—it appears to be as much about employment.	Mike R OSM	Revise text accordingly.
3.1.9.1.6	3-58	2nd sent.	Suggest: "~~Prior to 2008, c~~Coal production in Appalachia was ~~had been~~ in decline for the two years before 2008.	Mike R OSM	Accept
3.1.9.1.6	3-59	----	What do the numbers on the y axis of the graph at the top of the page represent? (e.g., 4.90E + 08)	Barcley-OSM	Accept. Please ensure the labels are understandable or removed.
3.1.9.1.4.	3-59	2-3	No source data/report is given for the comparison of tons/man-hour when comparing surface/underground efficiencies.	KY	Accept.
3.1.9.1.6	3-59	7	The use of the term utilization can be confusing. "The mines of the [Appalachian] region utilized 79% of underground production and 74% of surface production for a total utilization of 77% of the resource. (p. 3-59)" Is the statement about the Appalachian mines a reference to utilization of production capacity? If so, the mines themselves don't utilize the coal - they produce it. The public uses the coal.	UT	Accept.
3.1.9.1.6.	3-59	1st para., last sent.	Do you mean?: "The electrical generating stations and steel mills ~~mines~~ of the region utilized 79% of underground production and 74% of surface production for a total utilization of 77% of the resource."	Mike R OSM	Accept
3.1.9.1.6	3-59	9-12	In addition to describing recent year-to-year trends in coal production across all regions, this document should also describe longer term trends in available reserves and likely shifts in coal production among regions of the U.S. While the chapter as written includes data related to available reserves in each region, there is no attempt to compare reserves across these regions, or to forecast trends in coal production. This is	EPA	Accept. Summarize the information on this issue available in other reports.

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			a significant omission, particularly in the context of predicting the likely impacts of the stream protection rule on coal production methods and its geographic distribution.		
3.1..9.2	3-59	n/a	The sentence, "Arizona also produced coal from this region as of 2008," reads backward. It implies that AZ hadn't produced coal until 2008, which is not true.	Yellowman-OSM	Accept. Revise text to clarify meaning
3.1.9.2	3-59	14	Replace "The Colorado Plateau is located in the Four Corners region of Colorado, Utah, New Mexico, and Arizona" with "The Colorado Plateau coal region comprises coal reserves in Colorado, Utah, New Mexico, and Arizona". The "Four Corners Region" generally refers to the area surrounding the four corners and does not describe the entire four-state area.	UT	Accept
3.1.9.2.1	3-60	Fig 3.1-32	Add a legend to the figure identifying what the colored areas denote. If they represent reserves, it is not accurate, as coal reserves currently being mined in the Book Cliffs (located east of the San Rafael Swell are not shown at all. The Wasatch Plateau Coal Field is much more extensive than shown in the figure, extending east and north from the area shown. The Alton Coal Field with a soon-to-be permitted mine is also not shown. Since mines in these areas will fall under SMCRA rules, these areas should be evaluated. Also, although it is a large coal resource conducive to underground mining, much of the Kapairowits Plateau is not typically included in reserve assessments because of National Monument status. The states also need to be labeled, and the shape of the states should be corrected.	UT	Accept
3.1.9.2.1	3-60	4	"The coal-bearing regions in the Colorado Plateau are predominantly located in ~~eastern~~ western Colorado,"	UT	Accept
3.1.9.2.1	3-60	5-6	Correction: "**some** of the significant coal ~~beds~~ fields in the region include the Wasatch Plateau, Book Cliffs, Alton, and Kaiparowits Plateau in Utah, the San Juan Basin..." Explanation: Figure 3.1-32 inaccurately shows the Wasatch and Kaiparowits Plateaus as being the only coal-bearing areas	UT	Accept

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			in Utah. Kaiparowits coal is not accessible to mine because it is within the boundaries of Escalante National Monument. The Book Cliffs is also a coal producing area, as well as the Alton-Kolob Coal fields, along with the Wasatch Plateau, all have permitted mines. These coal fields are not the only coal fields in Utah, and none of them should be categorized with Colorado coal fields, since there are distinct geologic boundaries between the two. Coal mining in other fields (e.g. Henry Mountains) in Utah is also foreseen after the more-readily mineable Utah coal reserves are mined. Also, at least for Utah, the equivilation of "coal beds" with two "plateau" is awkward, since coal beds, while located in the plateau and in the plateau's coal field, are not the plateaus themselves. Using the term "coal fields" is probably more accurate than "coal beds" in Utah. The use of "coal beds" for coal in other Colorado Plateau states might be acceptable.		
3.1.9.2.1	3-60	17-18	This is just one example of many found throughout the EIS; tonnage should be described consistently, either as 'million short tons' or 'thousands of short tons', rather than mixing the two, especially in the same sentence. "In 1997, about 30 percent (330 million short tons) of coal mined in the United States came from Federal lands, 52,180 thousands of short tons of which came from the Colorado Plateau region,..."	UT	Accept. Please use standard US units and practice for tonnage and other numbers.
3.1.9.2.1	3-60	n/a	Black Mesa was left off the Location of Coal Reserves Figure 3.1-32.	Yellowman-OSM	Accept
3.1.9.2.2	3-60	Par 3	*1997 statistics on federal land. There is nothing more recent?*	KJass-OSM	Accept. There should be more recent statistics available from BLM and other sources.
3.1.9.2.2	3-60	18	Not very clear: "~~52,180 thousands of short tons~~ of which 52.18 million short tons came from the Colorado Plateau region,	UT	Duplicate comment
3.1.9.2.2	3-60	n/a	Since Black Mesa was left out of 3.1.9.2.1, I'm wondering if it was not accounted for in the "23%" of Tribal Ownership	Yellowman-OSM	Accept
General			Since Kayenta Mine (Black Mesa) was omitted earlier, all sections pertaining to Colorado Plateau need to be checked if they are also missing data from Kayenta Mine.	Yellowman-OSM	Accept

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.1.9.2.5	3-61	General	See comment above. Titling the section "Mine Size" appears too narrow.	Mike R OSM	Accept
3.1.9.2.6	3-61	22	General: Suggested source of coal production/reserves etc. data for the State of Utah can be found at: http://geology.utah.gov/emp/energydata/coaldata.htm	UT	Accept
3.1.9.2.6	3-62	Figure 3.1.33	Include units of production in figure title or on Y axis.	UT	Accept
3.1.9.2.6	3-62	Par 1	Update 2008 stats on production by ranking. This can be used for all state production numbers. http://www.eia.doe.gov/cneaf/coal/page/acr/table6.html	KJass-OSM	Accept
Figure 3.1-34	3-63		The figure doesn't identify what formation the black area represents. It also appears that the majority of the Olmos Formation is in Mexico, which is not identified by a national boundary.	Mike R OSM	Duplicate comment
3.1.9.3.1 Location of Regional Coal Reserves	3-63	Figure 3.1-34	Black shading on this figure should be identified in the legend as Cenozoic alluvium.	TX	Accept
3.1.9.3.1	3-63	Figure 3.1-34	Incomplete legend. i.e. what does black color represent?	UT	Duplicate comment
3.1.9.3.2			Why is privately owned land discussed in some sections and not others?	WV	Accept. Please cover land ownership consistently.
3.1.9.3.2 Property Ownership	3-63	11	The statement that "about half of the Federal surface estate in the Gulf Coast Region is underlain by federally owned minerals" is not substantiated and appears incorrect.	TX	Accept. Please document source of information and/or revise.
3.1.9.3.3	3-64	2nd sent.	This info looks like it should be (and some is) in 3.1.9.3.5.	Mike R OSM	Accept. Ensure consistency.
			I do not understand what this phrase means: "...and those same mines utilized 96% of that capacity." Does that mean they are mine mouth power plants?	Mike R OSM	Accept. Please explain.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.1.9.3.3	3-64		first paragraph, forth sentence says "Of the four top producing mines in the country, four are located in Texas." This is not correct.	Garnett	Accept. This does not appear accurate.
3.1.9.3.4 Extraction Method	3-64	13	The term soft overburden should be revised to unconsolidated overburden.	TX	Accept.
3.1.9.3.4 Extraction Method	3-64	14	The reference to *Texas Utilities* is outdated and should be *Luminant Mining Company LLC*. Various companies in the Gulf Coast Region, including Luminant, are presently practicing removal of overburden with both the scraper/dozer and dragline methods.	TX	Accept
3.1.9.3.4 Extraction Method	3-64, 3-65	25, 1	The study indicates that there may be mines in Texas that were or were not withheld to avoid disclosure, however, all mines in Texas are subject to disclosure of coal production information, as is the case in all states.	TX	Accept
3.1.9.3.5 Mine Size	3-64	19	It is unclear the source of information for the indication that as of 2008, the Gulf Coast region had 14 surface mines. This would imply that there are 11 surface mines in Texas, which is incorrect.	TX	Accept. Please use accurate numbers.
Figure 3.1-36	3-66		There is no legend to distinguish the green area from the gray area.	Mike R OSM	Accept
3.1.9.4.1	3-66	Figure 3.1-36	Legend?	UT	Duplicate comment
3.1.9.4.4	3-67	1st and 2nd paras., last sents.	Do not understand what these statements means: 1st para.-- "Surface mines utilized 83 percent of the resource." 2nd para.-" Underground mines utilized 78 percent of the resource." Is the surface **and** underground recoverable reserves both 38.2Bt? On p. 3-68, below the production chart the DRB is noted as 50.9Bt.	Mike R OSM	Accept. Please clarify
3.1.9.4.3	3-67		Second paragraph, third sentence, revise to "...continuous room and pillar mining method..."	Garnett	Accept
Figure 3.1-38	3-69		No legend distinguishes the different color areas with the grey areas.	Mike R OSM	Accept

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.1.9.5.2			In Property Ownership, Tribal ownership was omitted for Crow in MT (Absaloka Mine). The N. Cheyenne also have coal, but it hasn't been mined.	Yellowman-OSM	Accept
3.1.9.5.3	3-70	1st full sent.	"...a fraction of one percent beging bituminous."	Mike R OSM	Accept
3.1.9.5.4	3-70	Par 3	"Surface mines in this region are primarily medium or large box cut area mines" Again, use of the term box cut area mines not a common term in the west. "Overburden is trucked and dumped in mined-out areas" after the initial box cut to open access to coal, most of these mines use a dragline to place overburden – not trucks	KJass-OSM	Accept. Please revise and have ECSI/Morgan review for consistency with coal mining industry and regulatory program usage.
		Par 4	"Underground mining accounted for the remaining percent of coal production in 2008. In this region, underground mines tend to be either shaft or drift mines entering the coal seam beneath the final highwall." This is a general statement that for the most part is incorrect. 1) I know of only 2 mines in this coal field that are underground and neither are "shaft" mines; however, one may now have need of a supplemental ventilation shaft. Primary access is a slope or drift for both. 2) Again, of the existing UG mines only the WY mine went underground an existing surface operation.	KJass-OSM	Accept. Please ensure the accuracy of these statements.
3.1.9.5.5	3-70	29	"These 14 mines produced ~~70%~~ of the coal in the entire nation in 2008." Figure 3.1-6 shows less than 50% comes from the entire Northern Rocky Mountain Region.	UT	Accept.
3.1.9.6.1			Centralia Mine is in temporary cessation, not sure if I would consider that "shut down." For the purpose of the EIS I do feel that the Centralia mine and WA coal fields (Centralia/Chehalis) should be included.	Yellowman-OSM	Accept.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.1.9.6.1	3-71	Par 2	"Washington State's only remaining coal mine, the Centralia Coal mine…" Incorrect. Actually there are 2 existing coal mines, both in reclamation, the John Henry Mine, located in Black Diamond, is owned locally.	KJass-OSM	Accept
3.1.9.6.2	3-71	Par 3	*WA coal ownership is federal (blm), private and state.*	KJass-OSM	Accept
3.1.9.6.3	3-72	12	Change "Denali Nation Park" to "Denali National Park."	Barcley-OSM	Accept
3.1.9.7.2	3-73	Par 2	"There does not appear to be any data available regarding the location of coal reserves in relation to federally owned land for this region." Perhaps contacting OSM's Alton office can provide this information as they oversee these states.	KJass-OSM	Accept. Please verify this information.
3.1.9.7.4	3-73	18	"Mining methods in the Western Interior Region ~~includes~~ include both area surface mining and"	UT	Accept.
3.1.9.7.5	3-74	5-6	"Mine Size The Other Western Interior Region consisted of 12 surface mines with 220 total employees and 2 ~~surface~~ underground? mines with 140 total employees in 2008."	UT	Accept
3.1.9.7.5	3-74		First sentence should read "…and 2 underground mines with…."	Garnett	Duplicate comment
3.1.9.7.5	3-74	Par 2	"The Other Western Interior Region consisted of 12 surface mines with 220 total employees and 2 Surface [should this be UNDERGROUND??] mines with 140 total employees in 2008.	KJass-OSM	Duplicate comment

Comment Form

Title of Document	SPR EIS, Chapter 3, Section 3.2 Geology
Contact Information	
Name	OSM EIS Hydro Team Review
Telephone Number	
Email	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.2	GEN ERAL		The geology descriptions, at times, are extremely general and, at times, even discuss non-coal geology that will not ever be disturbed when mining coal. Please focus on providing a description of the geology that is/will be affected by coal mining. Some of the geology information is written from in a context of very general distriptions of geology and not from a viewpoint of how the geology relates to the coal measures. For example, page 3021, line 8-10 contains information on Pre-Cambrian strata in the Illinois basin. A google search reveals that this information was taken, pretty much verbatim without quotes or summary, from an abstract titled "Interior Cratonic Basins" edited by Letighton (et.al, 1990). Several sections of this paper were literally, cut and pasted, into the geology section of the EIS without first summarizing the information or placing the information in quotes to show it is being used verbatim. This VERY GENERAL information is on the Illinois basin and not part of the coal measures or really relevant to coal mining. Was this added just as easy "fill" material for a discussion on the Illinois basin? The abstract can be found at http://sequestration.org/basin.htm	OSM Hydro Team YES	
3.2.3	3-23	10-11	A focused discussion of the Powder River Basin is important, but I believe a standalone discussion of the Fort Union Region (primarily North Dakota) is important. (1) ND is a top 10 coal producing state, where the extensive lignite deposit of the Fort Union Member is mined. (2) The post mining land use in North Dakota is agriculture, in contrast to Wildlife/Grazing in	OSM Hydro Team YES	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			the Powder River Basin. Creating a standalone discussion of the Fort Union Member, will translate into a clearer discussion of environmental consequences in Chapter 4 related to the post mining land use. Suggest adding Section 3.2.3.3 Fort Union Region Geology and Section 3.2.3.4 Region Seismicity		
3.2.4	3-26	5-6	The discussion of the Northwest Region focuses on the coal bearing areas of Alaska. A standalone discussion is also needed for Washington State, specifically the Centralia-Chehalis Field. Centralia Mine is a large mine currently in reclamation. The mine has steep slopes, AMD, excess spoil, coal slurry impoundments, and is challenged with many other elements in the proposed SPR. John Henry is another mine (although small and less significant) in Washington State in reclamation. No coal is mined in Oregon. You provide a discussion in the Groundwater section (3.7) for Oregon and Washington, but you state that the geology section will be restricted to just Alaska. There is no justification why you choose not to include a discussion of the Geology of Oregon and Washington. There are 2 active mines in Washington, so you need to include a discussion on the geology of this area or provide some justification as to why not to include..	OSM Hydro Team YES	
3.2.1.1.1	3-5	21-23	There is a major trend in West Virginia in which higher sulfur content coal seams occur north of the hinge line, whereas lower sulfur content coal seams occur south of the hinge line in response to different depositional and geochemical environments.	OSM Hydro Team YES	
3.2.1.1.1	3-5	>29	West Virginia geologic formations and their coal seams have not been identified as had been discussed in the Kentucky, Tennessee, and Virginia section discussions.	OSM Hydro Team YES	
3.2.1.1.1	3-5	27-29	Mountaintop removal (steep slope) and area surface mining operations occur exclusively in southern West Virginia. The other surface mining methods such as contour, multiple-seam occur in both southern and northern West Virginia.	OSM Hydro Team YES	
3.2.1.1.1	3-5, 3-6	39	Mountaintop removal (steep slope) and area surface mining operations occur in eastern Kentucky. Other surface mining methods such as contour, multiple-seam occur in eastern	OSM Hydro Team YES	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			Kentucky. Add this to line #39.		
3.2.1.1.2	3-6	6	Utilize the term "stratigraphic" nomenclature, rather than "lithologic" nomenclature	OSM Hydro Team YES	
3.2.1.1.3	3-7	9-10	If the reader is referred to section 3.2.1.1.2 for details on eastern Kentucky geology and coal seam names, than there is an inconsistency in the manner that the West Virginia is handled (refer to comment #2).	OSM Hydro Team YES	
3.2.1.1.4	3-7	27	Use BTU rather than high energy content. No discussion on metallurgical coal seams.	OSM Hydro Team YES	
3.2.1.1.4	3-7	30	The Pocahontas No. 3 coal seam occurs as an underground mine resource, as it well below regional drainage, and it not germane to the discussion of surface mining in Virginia.	OSM Hydro Team YES	
3.2.1.1.4	3-8	2	Mountaintop removal (steep slope) and area surface mining operations occur in eastern Kentucky. Other surface mining methods such as contour, multiple-seam occur in southwest Virginia. Add this to line #2.	OSM Hydro Team YES	
General			There are many parts of Section 3.2 that have been copied, verbatim, from existing documents, articles, etc. When exact language is used, it needs to be offset in quotations or otherwise noted and properly referenced.	OSM Hydro Team YES	
3.3.3	3-15	20-22	As written, it sounds like only lignite occurs in the states constituting the Gulf Coast Region (with the exception of bituminous mentioned in TX). While this is true in some, there is bituminous in Alabama and Arkansas. Arkansas even has small deposits of anthracite. It is suggested that all of the coal types existing in each state be listed **OR** refer to all the coal types simply as "coal" (no differentiation). Whichever method is accepted should be used in all of the various regions (including Appalachian, Western, etc.) for consistency.	OSM Hydro Team YES	
3.3.3	3-15	20-22	The occurrence and/or mining of other coal types (bituminous, anthracite) in other areas besides TX should be included.	OSM Hydro Team YES	
3.2.1.5	3-16	2-14	The *Depositional Setting* portion does not include sufficient information on the depositional settings of all regions within this section.	OSM Hydro Team YES	
		5-7	Not sure how this can be section 3.2.1.5 under 3.3.3? What is the significance of the Llano uplift discussion?	OSM Hydro Team YES	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.2.1.5.1	3-17	1	Is this the Regional Geology section (not included in TOC)?	OSM Hydro Team YES	
		23-25	According to Texas Railroad Commission personnel, most lignite mining occurs in: - the Wilcox Group, lower Calvert Bluff Formation (lignite) in central TX; - the Jackson-Yegua (lignite) in south-central TX; and - the Claiborne Group, Bigford Formation (cannel coal) and Olmos Formation (bituminous) in south TX.	OSM Hydro Team YES	
3.2.1.5.2	3-18	6	According to the USGS report (source of this info), the Carrizo Formation consists mainly of sand and mud – not sandstone and mudstone.	OSM Hydro Team YES	
		13	According to the USGS report (source of this info), the Memphis Sand consists of sand, silt, and minor lignite – not as a sandstone, siltstone, and minor lignite unit.	OSM Hydro Team YES	
		14	According to the USGS report (source of this info), the Cook Mountain Formation consists of clay, silt, and sand – not clay, siltstone, and sandstone.	OSM Hydro Team YES	
3.2.1.5.2	3-18	16	According to the USGS report (source of this info), the Cockfield Formation consists of sand, silt, clay, and lignite – not sandstone, siltstone, clay, and lignite.	OSM Hydro Team YES	
3.2.1.5.3	3-19	17	*"...beds that **are** currently..."*	OSM Hydro Team YES	
		17	"...Dolet Hills **Formation**..."	OSM Hydro Team YES	
		18	The lignitic clays are found within the Hall Summit Formation.	OSM Hydro Team YES	
3.2.1.6	3-20		Due to its importance to the Gulf Coast and Illinois Basin regions, this section needs to include a discussion specifically on the New Madrid seismic zone.	OSM Hydro Team YES	
		7	Add southern Illinois to the list.	OSM Hydro Team YES	
		14	The date (2008?) and source of the map need to be shown **on all maps throughout the report**.	OSM Hydro Team YES	
3.2.2	3-21	2-4	The Illinois Basin does not include Michigan. The Illinois Basin includes IN, IL, and western KY. The Interior Region is more inclusive and does include Michigan.	OSM Hydro Team YES	
3.2.2.1	3-22	2-7	To help readers understand - need to define/explain "failed rift" and tie to Mississippi Embayment.	OSM Hydro Team YES	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
		13	This section should discuss in more detail the coal-mining regions of IN, IL, and KY separately.	OSM Hydro Team YES	
		14-16	Should specify the coal-bearing units are Pennsylvanian age.	OSM Hydro Team YES	
3.2.2.2	3-22	14-16	The Raccoon Creek Group also contains important coal-bearing strata in Indiana.	OSM Hydro Team YES	
		19-20	It should be clarified that the Hymera and Danville coals (IN) are correlative with the Jamestown and Danville coals (IL) and the Paradise and Baker coals (KY).	OSM Hydro Team YES	
3.2.2.3	3-22	25-26	Delete references to Michigan.	OSM Hydro Team YES	
		27	It appears the higher range (160-200) extends into southern IL.	OSM Hydro Team YES	
		24-32	Due to its importance to the Illinois Basin, this section needs to include a discussion specifically on the New Madrid seismic zone.	OSM Hydro Team YES	
3.2.5	3-32	3	This section should be called Western Interior Coal Region.	OSM Hydro Team YES	
3.2.5	3-32	6-7	Need to include a map showing the locations of the Arkoma, Cherokee, and Forest City Basins.	OSM Hydro Team YES	
3.2	3-2	7-8	"Some of the coal regions encompass large areas requiring some geological descriptions to be generalized (see Figure 3.2-1)." In the State of Utah, at least, greater (and sometimes more accurate) detail is needed than is presently provided under the Colorado Plateau coal geology section (see notes in section **3.2.1.3.3**). Consider using the USGS-designated hydrology areas 56 and 57 to accurately portray resources in the areas potentially affected by coal mining since previous boundaries in the scope of this EIS provide inaccurate analysis of resources possibly affected by coal mining.	UT YES	Please consider the use of the USGS information as the State of UT is saying that it is more accurate.
3.3.2 (should b e 3.2.2)	3-11	16	General – The section heading numbers for this section are fouled. This section would logically be numbered 3.2.2 (not 3.3.2) and subsections would be 3.2.2.1, 3.2.2.2, etc. (not 3.2.1.3, 3.2.1.4, etc.)	UT YES	Agree with UT, The subsection numbering for Colorado Plateau Region should be 3.2.2, not 3.3.2
3.3.2 (should be 3.2.2)	3-12	2-6	Figure 3.2-4 is misplaced below the Colorado Plateau header	UT YES	Agree with UT. Why is Figure 3.2-4, which is an Appalachian Basin Region Seismic map,

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
					placed in the Colorado Plateau geology section.. Correct.
3.2.1.3.3 (should be 3.2.2.1.3)	3-14	6-22	The text for this section of the EIS in its entirety was taken from an EPA coalbed methane paper, and contains inherent errors as a result when applied to coal mining. The map associated with this inappropriate description in the original source is also incompatible with the maps generated for this EIS. Hence the incorrect word description. For a more accurate map of coal resources and reserves, please see the 2000 USGS report entitled "Geologic Assessment of Coal in the Colorado Plateau: Arizona, Colorado, New Mexico, and Utah" (Professional Paper 1625-B). The statement that "a very small portion of the basin is in northwestern Colorado" is incorrect, and is a good example of how this description of the Uinta Basin is inadequate for purposes of coal reserves and mining. In Utah, most of the coal mining takes place on the far west end of what is called the "Uinta Coal Basin."	UT YES	Please consider these comments.. Please summarize previous work, don't cut and paste. What information is used directly, use quotes to signify that the information is taken verbatim from the source.
3.2.1.3.3	3-14	15-17	These two depth estimates are close on the shallow number but not on the deep one. This is likely due to the source – a coalbed methane appendix.	UT YES	Please contact the State of Utah **(801-538-5320)** get the accurate depths
3.2.1.3.3	3-14		A discussion of the geology of the Southwestern Utah Region (Kaiparowits Plateau) is necessary: the Utah program recently approved a plan for a surface mine in this region and anticipates an application to substantially expand that mine.	UT YES	Please consider adding the geology of the Kaiparowits Plateau to the coal discussion for UT
3.2.1.3.3	3-14	20-21	The term "targeted" is incorrect when applied to coal mining. It was taken from a source used in describing coalbed methane production, not coal mining. In Utah and very possibly worldwide, coal mining has occurred at a maximum depth of just over 3,000 ft.	UT YES	Please revise if this section was taken from a coal bed methane report. The word "target" may be not used properly. I have to defer to the State of UT for their expertise on this issue
3.2.3	3-23	4 - 6	The description and map showing the Northern Rocky Mountains and Great Plains Region in Section 3.2.3 does not	UT YES	Please revise

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			agree with the description and map in Section 3.1.9.5.1. Are Utah, Idaho, and New Mexico part of the Northern Rocky Mountains / Great Plains Region or in the Colorado Plateau Region? If the Figure 3.2-11 is correct, then replace text with: "The Northern Rocky Mountains and Great Plains Region encompasses the coal-bearing areas of the states of Idaho, Montana, North Dakota, South Dakota, and Wyoming and selected coal-bearing areas in Colorado, New Mexico, and Utah. This region is subdivided into many basins, regions or fields (see Figure 3.2-11)."		
3.2.1.1.4	3-7	12-14	Coal occurs in three distinct areas in Virginia. The Eastern Coalfields are Triassic basins where commercial bituminous coal mining began as early as 1748, with mining continuing for about 200 years. The last major mine closed in 1927 with sporadic mining continuing through the 1950s. Although mining has ceased, Virginia's Abandoned Mine Land program (AML) continues to evaluate problems and to conduct many reclamation projects in this area due safety issues such as to housing developments near old mine shafts. The Valley Coalfields are in the west-central Valley and Ridge part of the state. The Mississippian-age semi-anthracite coal was primarily mined from the mid-1800s to early 1900s; however, sporadic attempts at additional mining or reprocessing of mine refuse have continued to the present. The AML program also continues to conduct reclamation projects in this coalfield area. Mining in the Southwest Virginia Coalfield began in the 1880s. The coalfield consists of relatively ...(continue current 2nd sentence)	VA YES	Please summarize VA's concerns to make sure the document accurately portrays mining and geology in Va, in general. Simply summarize the information they provided and include it in these sections.
3.2.1.1.4	3-7	18	Russell, not Russel	VA YES	revise
3.2.1.1.4	3-7	36	... secondary names, in Virginia alone. (end here, delete coal names, add following). In the 1980s, in order to provide more detailed geologic base maps and ensure consistent stratigraphic correlation, Virginia completed the mapping and publication of 7 ½ minute geologic quadrangle maps for the SW Virginia coalfield area. A coal bed's mapped "geologic name" is required in permitting; however, historic local names	VA YES	Revise and include their comment

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			are also still commonly used by surface and mineral owners due the use of these names in deeds, leases and contracts.		
Table of Contents for 3.2-3.4	I	--	Beginning at 3.2.3.2, the pages denoted in the Table of Contents do not match the actual page numbers in the document.	Barcley-OSM YES	Revise
3.2.1.1.6	3-10	20-21	The second statement should be "The depositional setting and geology of the coal bearing area of western Maryland *are* identical to that of the western Pennsylvanian Bituminous Coal Region.	Barcley-OSM YES	Revise
3.2.1.5 Depositional Setting	3-16	13	The coal bearing formation, Claiborne Group, is incorrectly referred to as the Clairborne Group.	TX YES	Revise
3.2.1.5.2 The Claiborne Group	3-18	31	Discussion in this subsection incorrectly indicates that active mining is occurring in this formation.	TX YES	Revise
3.2.5 Other Western Interior Region	3-32	5	Central Texas is now identified as being contained within the Other Western Interior Region, unlike discussions in other sections.	TX YES	There have been several comments related to this one. The fact that several States are described in the document to be in part of several regions may be reflective of how much of the information is not summarized but copied and pasted directly in to the document from various sources. Proof read the document and make sure that States are part of several regions. Summarize, don't cut and paste. Reference correctly. Quote when text is taken as verbatim from a paper or book.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition

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Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	SPR DEIS Chapter 3 Section 3.15 - Recreation
Contact Information	
Name	Reconciled
Telephone Number	
Email	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.15			Page numbering in this section is incorrect. You have page 3-2 through 3-6 and then instead of going to pg. 3-7, the numbering system starts over again with pg. 3-1. Please correct. (Coker)	Yes	
3.15			There are few national parks in WV or the Appalachian region that are within the coal region. Mining is prohibited in the National Rivers within the park system. Those rivers had historical mining and that history is part of the popularity of the areas. (West Virginia)	No	Commenter's observation with no direction on how commenter wants this information included.
3.15.0	3-2	1-3	Misleading opening statement. Replace: "This section provides an overview of the capacity, demand, quality of experience, and economic contributions of existing and proposed recreational facilities in the coal field regions." (Hartos)	Yes	
3.15.0	3-2	23	"National Parks Service (NPS)" Delete the "s" (Charles Gault)	Yes	
3.15.0	3-2	17-23	Generic information on all NPS resources in the U.S. is not relevant to this EIS and should be removed. (Hartos)	No	Commenter is technically correct but information doesn't adversely impact the document.
3.15.0	3-3		Table 3.15-1 is generic and not relevant to coal field. Remove	No	Commenter is technically correct but information doesn't adversely impact the document.
3.15.0	3-3		While Table 3.15-2 is State specific it certainly does not characterize the visits to U.S. National Parks in the coal fields. Remove. Maryland is also missing from the table. (Hartos)	Yes	Contractor is not asked to remove the table but is asked to add Maryland data to the table. Make sure states listed here comport with states listed in subsection 3.0.2.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.15.0	3-5		Table 3.15-3 – Information not specific to the coal fields. Remove especially in light of statement on page 3.4: "Tourism revenue information was not available by county or as a subgroup of any state; therefore, the specific significance of tourism to the study area cannot be quantified." Maryland is also missing from the table. (Hartos)	Yes	Contractor is not asked to remove the table but is asked to add Maryland data to the table. Make sure states listed here comport with states listed in subsection 3.0.2.
3.15.0	3-6		Table 3.15-4 is generic and not specific to the coal fields remove. Maryland is also missing from the table. (Hartos)	Yes	Contractor is not asked to remove the table but is asked to add Maryland data to the table. Make sure states listed here comport with states listed in subsection 3.0.2.
3.15.1	3-1	5-7	Remove sentence assuming Table 3.15-3 is removed as discussed above. (Hartos)	No	
3.15.1	3-2		Figure 3.15-1 Add all National forests (Allegheny, Monongahela...) to the map (Hartos)	Yes	Add National Forests to map and associated tables
3.15.1	3-3		Table 3.15-5 Add National Forests to listing. (Hartos)	Yes	Add National Forests to map and associated tables
3.15.1	3-2 thru 3-6		Figure 3.15-1 and Table 3.15-6 appear to exclude Muskingum River and Lake Milton State Parks in Ohio (Ohio)	Yes	Research and add as necessary
3.15.1	3-6	2-3	Remove sentence assuming Table 3.15-4 will be removed. Retention would be misleading in that a reader could assume that all of the visitation, acreage, and revenue is directly attributed to the state parks listed in Table 3.15-6. Not so. (Hartos)	No	
3.15.1	3-7	3-12	Table 3.15-7 is generic and not specific to the coal fields. In consequence, the lines of text identified should be modified to reflect qualitative opposed to a quantitative discussion. In addition, this data does not appear credible !! (Hartos)	No	
3.15.1	3-7	6	*For consistency throughout the document, spell out "%" (Pacula)*	No	Addressed in previous comment
3.15.1	3-8		Figure 3.15-2 is graphical depiction of Table 3.15-7 and should be removed. (Hartos)	No	
3.15.1	3-8		In Figure 3.15-2, if possible please remove the legend symbols in the states of Mississippi, N. Carolina, Massachusetts and Rhode Island as they are not in the App. Basin. (Coker)	Yes	
3.15.1.1	3-9	2-14	The paragraph is generic and not germane to the coal fields, and especially the active coal mining areas, of Alabama. It needs to be revised. Examples, the U.S. Space and Rocket	Yes	As a review, we looked at your list of State Parks identified as in the App. Basin (Table 3.15-6).

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			Center and the Joe Wheeler State Park are outside of active coal mines and likely the coal fields. Here's a link to the coal fields in Alabama: http://alabamamaps.ua.edu/contemporarymaps/alabama/physical/coalresources.jpg (Hartos)		Joe Wheeler S. Park was not in that table. Review everything in your discussions of these subsections (3.15.1.1 – 3.15.1.1.8) to make sure they comport with the various tables you have provided earlier in this subsection.
3.15.1.4	3-10	16	Delete "unspoiled" as a modifier to forests: with minor exceptions, Pennsylvania forests have been commercially harvested and few virgin (i.e. "unspoiled" tracts exist). (Hartos)	Yes	
3.15.1.7	3-11	11	Remove the "The Greenbrier" not within the coalfields. On the other hand the New River Gorge, the New River Gorge Bridge, and the New River as a National River should be discussed.	Yes	Add New River information from this comment to the list provided and verify whether the Greenbrier is in the App. Basin area as per your Figure3.15-1. If not, please remove from list.
3.15.1.7	3-11	13-14	What pertinence does the quote from the WV Tourism Guide have and why isn't this type of thing mentioned in other states and regions? (West Virginia)	Yes	Although the statement is quite benign, it is not important to the point that coal is a part of the W. Virginia recreational resources. Please remove the statement.
3.15.2	3-15	4	Reference to table is incorrect (should be 3.15-10 ?) (Utah)	Yes	
3.15.2.4	3-18	11-12	Although a large amount of coal deposits are in the Uinta basin, most of it is not considered mineable, and very little has been developed for mining recently. (see 3.2.1.1) This affected environment analysis should consist of areas that will be developed for mining. The majority of coal mines in Utah do not lie in the Uinta or Vernal Basin. There are many oil and gas developments in this area, but zero coal mines. Coal mines are located within the bookcliffs which are south of the boundary for the unita basin according to the USGS. (Utah)	Yes	Contractor should resolve the comment to reflect the mining of this area of Utah
3.15.2.4	3-18	11-20	The recreation biography for the coal resource areas of Utah is incorrectly focused and mostly deficient. For example, the Uinta Mountains and Flaming Gorge lie significantly outside of the coal fields shown in Figure 3.15-4. A description of the	Yes	Contractor should revise the discussion to reflect the state's input.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			recreation associated with the Wasatch Plateau and Book Cliffs and some of the southern Utah national parks and monuments (e.g. Bryce Canyon) would be more pertinent for Utah. The Bureau of Land Management would be able to effectively identify the recreational resources that exist in or significantly close to Region 2 coal field areas in Utah (and also in other states like Colorado, NM, etc). (Utah)		
3.15.2.4	3-18	19-20	Recreation areas mentioned in this section should include those that are located within or near coal producing regions, not Steinaker and red fleet. These recreation areas could be: Green River State Park, Scofield Reservoir state park, or the San Rafael Swell. (Utah)	Yes	Please make suggested changes in parks identified.
3.15.7	3-44	5	Texas should be included in the list (Best)	Yes	Contractor needs to reconcile the issue of Texas. In Sec. 3.0.2, Texas is not identified as being in the "Other Western Interior" region list of states in study area, Yet when you look at Figure 3.15-13 and Tables 3.15-23 and 3.15-24, Texas seems to be included in this Other Western Region. Arkansas is in the same situation as Texas and should be reconciled as well.
STOPPED	3.15.2		SIMILAR COMMENTS WOULD APPLY TO THE OTHER REGIONS (Hartos)	No	

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	SPR Draft EIS – Section 3.16 - Visual Resources
Contact Information	
Name	Reconciled
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Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.16			General Comments - In introduction to Sec. 3-16, Contractor should inform the reader that SMCRA does not generally require any analysis of visual resources. The only exception is the unsuitability petition process the Contractor describes in lines 8-18 on pg. 3-51. Also, in the Introduction or as the Contractor goes through each of the regional discussions of "Visual Resource Assessment and Management," the Contractor needs to point out whether any of the State SMCRA regulatory programs conduct any visual resource analysis (Note: Contractor did this for the State of Texas on pg. 3-56, lines 27-34 but did not seem to do this for any other state SMCRA programs). We don't think any of the SMCRA state programs do this under a state SMCRA requirement but some of the states, particularly those in the western US, may do this type analysis under a state NEPA law / regulation. (Coker)	Yes	
3.16	3-50	28-31	Delete the sentence: "When visual ..." This section should discuss the character of the visual resources in the coal fields. Discussion of the impacts should be left to Chapter 4 (Hartos)	No	
3.16	3-50	32-34	Delete the sentence: "The aesthetic impacts of a project ..." Same as previous comment. (Hartos)	No	
3.16	3-50-51	38	Delete the sentence: Visual impacts ..." Same (Hartos)	No	
3.16	3-51	11	The SMCRA Section numbers should be supplemented with cites to the appropriate US Code section. The general public doesn't know SMCRA by its original Section numbers. Section 522 should also be referenced as 30 USC 12 72. Insert US	No	The public is no more likely to understand or to recognize US Code than they are to recognize SMCRA sections

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			Code cites with SMCRA Section numbers. (C. Gault)		
3.16	3-51	12	555(a)(3)(B) should be 522(a)(3)(B) (Kirby)	Yes	
3.16	3-51	12	555 (a)(3)(b) should read 522 (a)(3)(b) (Ohio)	No	Duplicate of comment above
3.16	3-51	12	" ... including 555(a)(3)(B) areas that ..." The cite is wrong. It should be "522" (C. Gault)	No	Duplicate of comment above
3.16	3-51	18	"Secretary of the OSM" should read "Director of the OSM" (Best)	Yes	
3.16	3-51	18	There is no Secretary of OSM. It would be the Secretary of Interior or his designee. (Kirby)	No	Duplicative of comment above
3.16	3-51	18	Delete sentence: "On federal land ....." (Hartos)	No	Not necessary to delete sentence
3.16	3-51	4-7	Delete sentence: "Impacts on visual resources..." Save for Chapter 4. Same (Hartos)	Yes	Delete 4-7 paragraph. More appropriate for introduction to visual impacts analysis – Chap. IV
3.16	3-51	8-18	The point of this paragraph is unclear, but the paragraph can be salvage by inserting a lead sentence: "Several methods exist for protecting aesthetic resources from the impacts of coal mining." (Hartos)	Yes	Add recommended sentence
3.16	3-51	8-9	Assuming acceptance of the last comment, delete" There are ...resources, and the." Start the sentence: "The National..." (Hartos)	No	
3.16	3-51	8	Delete the first four words of the sentence and replace with "Some Federal agencies have ." (Coker)	Yes	
3.16	3-52	23	Suggest moving Section 3.16.1.2 –pg 3.52 to pg.3.51 -19. (Kirby)	No	No basis or reason for moving section is provided
3.16	3-53	10	Editorial: Revise to "determined by the". (Kirby)	Yes	
3.16	3-54	25+	Consider adding a discussion of the Cumberland Gap and Fall Creek Falls Unsuitability Petitions where visual considerations played important roles (Kirby)	Yes	In the Introduction to 3.16, the Contractor has a paragraph (pg. 3-51, lines 8-18) where the unsuitability process is described. At the end of this paragraph, the Contractor should (as was done for East Lynn Lake on pg. 3-54) provide an example of where / how the unsuitability process was used to declare an

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
					area "unsuitable" when aesthetic impacts were a part of the basis for the unsuitability decision. The Falls Creek Falls Unsuitability Petition is a good example to draw from. The TN OSM Knoxville Field Office can be contacted to provide a copy of the decision document. The Contractor can contact this OSM office at 865-545-4103.
3.16	3-55	10	Should add the Bureau of Indian Affairs (BIA) to list of agencies. Are the environmental agencies the same as state SMCRA regulatory authorities? If so, please specify or otherwise clarify who the environmental agencies are. (Kirby)	Yes	
3.16	3-55	15	The proposed Red Cliff Mine is in Colorado. The EIS has been shelved. (Kirby)	Yes	Change Arizona to Colorado
3.16	3-59	6-8	Suggest adding the state SMCRA permitting process to the list of opportunities to comment on mining activities. (Kirby)	Yes	
3.16	3-60	27	Add the term active to coal mines. (Kirby)	Yes	
3.16.1.1	3-51	37-38	Delete sentence: "The Appalachian Mountains ..." This is common mistake. With limited exceptions, most coal mining occurs in the Appalachian Plateau rather than the Appalachian mountains. I suggest this replacement: "Active coal mining in the Appalachia occur principally in the physiographic provinces characterized by steep terrain formed from a highly dissected Appalachian plateau. (Hartos)	Yes	To be consistent with the other sections and subsections within this document and to address this commenter's concern, please delete the first sentence in subsection 3.16.1.1.
3.16.1.1	3-51	38	Delete sentence: "The Appalachian Basin..." not needed (Hartos)	No	
3.16.1.1	3-52	8-22	Recommend deleting these two paragraphs. As written, they provide little or no description of the visual resources present within the existing / affected environment. (Coker)	Yes	
3.16.1.1	3-52	10	Insert: "cold broadleaf deciduous" before forest (Hartos)	No	Comment is no longer needed as OSM is recommending in the subsection 3.16.1.1, pg. 3-52, line 8-22 comment above that the text referenced in this comment be deleted

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.16.1	3-52	10	Delete the text after the word: "forest". The reason: it important to establish the current context of visual resources as cold broadleaf forests. It is not important to characterize what historically may or may not have been forest. (Hartos)	No	"
3.16.1	3-52	10-12	Delete the sentence starting with: "These rich deciduous ...." First, this section should simply characterize the visual resources of the region. Second, this statement is not accurate and is not supported. (Hartos)	No	"
3.16.1	3-52	1-2	Delete sentence: "The rugged terrain..." Assuming acceptance of the comment above. (Hartos)	No	"
3.16.1	3-52	12-14	Delete the two sentences beginning with: "The rugged terrain ..." Again, the passage is losing focus on the purpose of this section. (Hartos)	No	"
3.16.1	3-52	17-22	Delete this entire paragraph. Not germane to this section.	No	"
3.16.1	3-52	2-7	Delete two sentences, starting with: "Settlement patterns..." The text is wandering off the mark of this section. Secondly, while the land use described is accurate for central Appalachia. This characterization is less accurate for southern and northern Appalachia. (Hartos)	No	Leave text as currently written. Arguably, these two sentences could be said to indirectly help characterize the visual resources by defining where the influences associated with human habitation of the area have most influenced the aesthetic environment.
3.16.1	3-52	9	Delete "ecoregion" (Hartos)	No	Comment is no longer needed as OSM is recommending in the subsection 3.16.1.1, pg. 3-52, line 8-22 comment above that the text referenced in this comment be deleted
3.16.1.1			GENERAL COMMENT: This section needs work! The authors have missed the opportunity to discuss the basis of the issues in Appalachia (i.e. active large scale area mines, contiguous tracts of grass land that has replaced forests, valley's that have been replaced with excess spoil and coal refuse, sediment and iron laden streams, a topography that has been altered,. The authors need to discuss the context of the existing environment. Mining has and is occurring Appalachia. In some cases, especially pre-SMCRA scars were left on the landscape. The authors need to discuss reclamation: the success and failures of SMCRA. The	Yes	The author has really provided very little description of the existing / affected environment for this topic – visual resources. Please provide additional description of these existing visual resource, the extent to which pre-law / pre-SMCRA mining has affected the existing visual resource environment, the arguably temporal affect that

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			authors need to discuss other existing human activities (industry, brownfields. Vibrant and dying towns....) All these are part of the existing environment. Maps, pictures, statistics would be helpful. Finally, there is a lack of discussion of outstanding visual resources within Appalachia. We have great features like waterfalls, vistas, gorges, lakes, rivers that should be discussed as well. The section 3-15 Recreation touches upon some of these outstanding features. (Hartos)		mining since the advent of SMCRA (Aug. 1977) has had on the existing environment, etc.
3.16.1.2	3-52, 3-53	23-39, 1-36	This section should be moved from where it is in the Appalachian section to the preceding subsection (not numbered explicitly) under 3.16. It is pertinent to many of the coal basins, not just the Appalachian section. (Utah)	Yes	The commenter is correct. The description of the BLM (VRM) system and the USACE (VRAP) system should be moved to the Introductory 3.16.subsection discussion. Then all that is to be addressed under the Appalachian Basin subsection is the extent to which the BLM and USACE systems are expected to be applied to the affected environment in Appalachia.
3.16.1.2	3-52-53	23-28	Move the essence of this section to a region where BLM has a considerable presence. The BLM lands are very limited in the Appalachian region. (Hartos)	No	The disposition of 3.16.1.2, pg.353 & 3-53 above addresses this comment
3.16.1.2	3-53	1-24	Delete the entire discussion of the East Lynn Lake project. This discussion is not germane. (Hartos)	No	Although it may have limited value in this subsection, it does show the reader an example of Federal Lands projects and how visual resources may be evaluated under the existing regulatory programs.
3.1.6.1.2	3-53	37-39	Revise these two sentences to also indicate that State SMCRA regulatory programs don't typically require visual resource assessment. Also, change the last sentence to remove the words "have often not been" and replace with "may not have been." (Coker)	Yes	
3.16.1.2	3-53	37-39	Delete this paragraph. The purpose of this is to characterize the existing environment not to render an opinion. (Hartos)	No	Not necessary as above comment addresses the commenter's concern.
3.16.1.2	3-54	2 - 6	There needs to be a better description of what the project is. If it is underground mining, that needs to be stated. Insert a	Yes	Please indicate that the E. Lynn Lake Project is a proposal to

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			description of the project. (C. Gault)		access Federal coal reserves through use of an existing underground mine located on nearby private property.
3.16.2.1	3-54, 3-55	27-39; 1-4	Some explanation is needed to explain how the resources listed in this section are or contain visual resources. (Utah)	Yes	In lines 33-39 on pg. 3-54 and 1-4 on pg. 3-55, the Contractor needs to clarify how the resources identified may be considered visual resources or how they may have affected existing visual resources (e.g. is the author saying that while the identified national parks may be considered existing visual resources, the identified ski resorts have impacted the existing visual resources in this area?). Also, is the author saying that agricultural and mining activities and the communities that have grown up in this area in support of these activities has impacted the visual resources in this area or what? In other words, please clarify the point or connection that is being made between the last two paragraphs of 3.16.2.1 and existing visual resources in this area.
3.16.2.2	3-55	18	A description of the type and extent of mining needs to be made. (C. Gault)	Yes	The type mining proposed and the extent of the mining proposed for the Red Cliff Mine needs to be briefly described
3.16.2.2	3-55	6-40	This explanation of how visual resources are analyzed is good. It might be helpful to reference section 3.16.1.2, since the Colorado Plateau has so much BLM and Forest Service land. (Utah)	No	Not necessary
3.16.7	3-60	35	OSM does not do reclamation activities in any of the states. All activities are conducted under approved State programs.	Yes	Contractor needs to delete or clarify this statement.

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			BLM controls coal (no surface ownership) in Oklahoma and OSM produces mine plan decision documents for the permitted areas. (Best)		

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Overall			I would recommend looking at all EIS sections for consistency with "%" since it was mixed throughout all sections I reviewed. *(Pacula)*	Yes	Addressed by universal comment submitted under 3.11.6 – Pg. 3-12 – Line 11.
Table 3.17-19	3-92	Within table	Need wastewater treatment data *(Pacula)*	No	As best as reviewer can tell, this information is in the draft EIS.
Table 3.17-9	3-79	Within table	*Editorial: Insert "(" before De Soto (Pacula)*	Yes	
3.17	3-17	n/a	Table 3.17-3: lists Scott Co, but not Wise nor Lee (Virginia)	Yes	Please provide data for these coal producing counties of Virginia.
3.17.1	3-65	8	*For consistency throughout the document, spell out "%" (Pacula)*	No	Addressed by universal comment submitted under 3.11.6 – Pg. 3-12 – Line 11.
3.17.1.1	3-61	28	Sentence appears to end prematurely. The last phrase dangles. (Best)	Yes	
3.17.1.1	3-62	11	Include: *However, facilities are set up for one way movement of coal. Coal is loaded and shipped out, but tipples cannot unload rail cars.* (Virginia)	No	This information does not integrate into the text of this discussion and is not necessary for this document.
3.17.3			General – perform a global replacement to correct "Colorado Plateau Basin" to read "Colorado Plateau Coal Region" (Utah)	No	
3.17.1.3	3-65		There are no Interstates in coalfields of VA (Virginia)	No	The Contractor is not stating in this section that interstates were present in VA
3.17.4 Gulf Coast Basin	3-76	Table 3.17-7	The total short tons of coal for Texas listed in this table is discrepant with the value presented in sub-section 3.1. (Texas)	No	Couldn't find in section 3.1, where the commenter was referring to.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.17.3.1	3-77, 3-78	10	This is an good table, but you need to include source (Table 3.17-5). (Utah)	Yes	The source of this table 3.17-5 should be identified.
3.17.2.1.3	3-71	36-39	**Seven** western counties ... The **seven** counties ... **add** U.S. Route 460. (Virginia)	Yes	Please make the commenter's suggested changes
3.17.2.1.3	3-73	37	*For consistency throughout the document, spell out "%" (Pacula)*	"	"
3.17.2.1.3	3-74	15	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.2.1.3	3-74	3	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.2.1.3	3-74	40	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.2.1.3	3-75	34	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.2.1.3	3-75	37	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.2.1.3	3-76	6	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.2.1.3	3-76	9	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.4.1.1 Rail Requirements	3-77	13, 14	This sentence should reflect that all coal shipped by rail in Texas terminates in Texas. (Texas)	No	Not germane to the point being made by the Contractor.
3.17.4.2 Gulf Coast Basin Utilities	3-79	Table 3.17-9	It is unclear the reason only three Texas counties were chosen to characterize the origin of coal in this state. (Texas)	Yes	If there are additional coal producing counties in Texas, they should be added to this table.
3.17.3.1.3	3-75	11	I-40 should be U.S. 40 (Best)	Yes	I-40 should be I-70
3.17.3.1.3	3-75	30	*"XX" needs to be replaced with a route number. (Pacula)*	Yes	
3.17.3.1.3	3-79	21	*For consistency throughout the document, spell out "%" (Pacula)*	"	"
3.17.3.1.3	3-75	36-40	A new mine (Coal Hollow) is being permitted in Kane County to the south, and will rely on road transport. (Utah)	Yes	The addition of this new mine should be incorporated into the various subsection discussions of Chapter III relevant to the State of Utah.
3.17.4.1.3 Roadway	3-77, 3-78		The discussion in this sub-section implies that truck haulage of coal/lignite in Texas occurs on public highways. All truck	Yes	Perhaps a statement indicating that the State of Texas has

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Requirements			haulage of lignite in Texas is off-road and does not affect public highways. (Texas)		indicated that no coal haulage occurs on public roadways in Texas would be an appropriate introductory statement to the discussion of highways in Texas.
3.17.4.1.3	3-78	19	Sentence needs another word, such as around, across or in. (Best)	Yes	
3.17.4.1.3	3-78	33	Texas Route 21 (Best)	Yes	Replace the XX with the appropriate highway number
3.17.4.1.3	3-78	34	lands should be "lanes" (Best)	Yes	
3.17.4.1.3	3-78	19	Insert "in" after scattered *(Pacula)*	No	Duplicative – addressed in previous identical comment.
3.17.4.1.3	3-78	33	"XX" needs to be replaced with a route number. *(Pacula)*	No	Duplicative – addressed in previous identical comment
3.17.6.1.1	3-88	17	*For consistency throughout the document, spell out "%" (Pacula)*	"	"
3.17.5.1.3	3-81	31	This section refers to Indiana's eight coal producing counties. The section lists seven counties. Coal was produced from 9 Indiana counties in 2009. Coal has been produced from 17 Indiana counties over the past couple decades. (Indiana)	Yes	Please correct your reference to coal producing counties in Indiana to reflect the most current data (i.e. 2009 and 9 coal producing counties)
3.17.5.1.3	3-85	40	*For consistency throughout the document, spell out "%" (Pacula)*	"	"
3.17.5.1.3	3-85	9	*For consistency throughout the document, spell out "%" (Pacula)*	No	Addressed by universal comment submitted under 3.11.6 – Pg. 3-12 – Line 11.
3.17.5.1.3	3-86	9	*For consistency throughout the document, spell out "%" (Pacula)*	"	"
3.17.8.1.1	3-89	5	"Basin, serves and a major" should read "Basin serves as a major" (Best)	Yes	

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Overall			I would recommend looking at all EIS sections for consistency with "%" since it was mixed throughout all sections I reviewed. *(Pacula)*	Yes	Addressed by universal comment submitted under 3.11.6 – Pg. 3-12 – Line 11.
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Table 3.17-9	3-79	Within table	*Editorial: Insert "(" before De Soto (Pacula)*	Yes	
3.17	3-17	n/a	Table 3.17-3: lists Scott Co, but not Wise nor Lee (Virginia)	Yes	Please provide data for these coal producing counties of Virginia.
3.17.1	3-65	8	*For consistency throughout the document, spell out "%" (Pacula)*	No	Addressed by universal comment submitted under 3.11.6 – Pg. 3-12 – Line 11.
3.17.1.1	3-61	28	Sentence appears to end prematurely. The last phrase dangles. (Best)	Yes	
3.17.1.1	3-62	11	Include: *However, facilities are set up for one way movement of coal. Coal is loaded and shipped out, but tipples cannot unload rail cars.* (Virginia)	No	This information does not integrate into the text of this discussion and is not necessary for this document.
3.17.3			General – perform a global replacement to correct "Colorado Plateau Basin" to read "Colorado Plateau Coal Region" (Utah)	No	
3.17.1.3	3-65		There are no Interstates in coalfields of VA (Virginia)	No	The Contractor is not stating in this section that interstates were present in VA
3.17.4 Gulf Coast Basin	3-76	Table 3.17-7	The total short tons of coal for Texas listed in this table is discrepant with the value presented in sub-section 3.1. (Texas)	No	Couldn't find in section 3.1, where the commenter was referring to.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.17.3.1	3-77, 3-78	10	This is an good table, but you need to include source (Table 3.17-5). (Utah)	Yes	The source of this table 3.17-5 should be identified.
3.17.2.1.3	3-71	36-39	**Seven** western counties ... The **seven** counties ... **add** U.S. Route 460. (Virginia)	Yes	Please make the commenter's suggested changes
3.17.2.1.3	3-73	37	*For consistency throughout the document, spell out "%" (Pacula)*	"	"
3.17.2.1.3	3-74	15	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.2.1.3	3-74	3	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.2.1.3	3-74	40	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.2.1.3	3-75	34	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.2.1.3	3-75	37	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.2.1.3	3-76	6	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.2.1.3	3-76	9	*For consistency throughout the document, spell out "%"(Pacula)*	"	"
3.17.4.1.1 Rail Requirements	3-77	13, 14	This sentence should reflect that all coal shipped by rail in Texas terminates in Texas. (Texas)	No	Not germane to the point being made by the Contractor.
3.17.4.2 Gulf Coast Basin Utilities	3-79	Table 3.17-9	It is unclear the reason only three Texas counties were chosen to characterize the origin of coal in this state. (Texas)	Yes	If there are additional coal producing counties in Texas, they should be added to this table.
3.17.3.1.3	3-75	11	I-40 should be U.S. 40 (Best)	Yes	I-40 should be I-70
3.17.3.1.3	3-75	30	*"XX" needs to be replaced with a route number. (Pacula)*	Yes	
3.17.3.1.3	3-79	21	*For consistency throughout the document, spell out "%" (Pacula)*	"	"
3.17.3.1.3	3-75	36-40	A new mine (Coal Hollow) is being permitted in Kane County to the south, and will rely on road transport. (Utah)	Yes	The addition of this new mine should be incorporated into the various subsection discussions of Chapter III relevant to the State of Utah.
3.17.4.1.3 Roadway	3-77, 3-78		The discussion in this sub-section implies that truck haulage of coal/lignite in Texas occurs on public highways. All truck	Yes	Perhaps a statement indicating that the State of Texas has

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
Requirements			haulage of lignite in Texas is off-road and does not affect public highways. (Texas)		indicated that no coal haulage occurs on public roadways in Texas would be an appropriate introductory statement to the discussion of highways in Texas.
3.17.4.1.3	3-78	19	Sentence needs another word, such as around, across or in. (Best)	Yes	
3.17.4.1.3	3-78	33	Texas Route 21 (Best)	Yes	Replace the XX with the appropriate highway number
3.17.4.1.3	3-78	34	lands should be "lanes" (Best)	Yes	
3.17.4.1.3	3-78	19	Insert "in" after scattered *(Pacula)*	No	Duplicative – addressed in previous identical comment.
3.17.4.1.3	3-78	33	"XX" needs to be replaced with a route number. *(Pacula)*	No	Duplicative – addressed in previous identical comment
3.17.6.1.1	3-88	17	*For consistency throughout the document, spell out "%" (Pacula)*	"	"
3.17.5.1.3	3-81	31	This section refers to Indiana's eight coal producing counties. The section lists seven counties. Coal was produced from 9 Indiana counties in 2009. Coal has been produced from 17 Indiana counties over the past couple decades. (Indiana)	Yes	Please correct your reference to coal producing counties in Indiana to reflect the most current data (i.e. 2009 and 9 coal producing counties)
3.17.5.1.3	3-85	40	*For consistency throughout the document, spell out "%" (Pacula)*	"	"
3.17.5.1.3	3-85	9	*For consistency throughout the document, spell out "%" (Pacula)*	No	Addressed by universal comment submitted under 3.11.6 – Pg. 3-12 – Line 11.
3.17.5.1.3	3-86	9	*For consistency throughout the document, spell out "%" (Pacula)*	"	"
3.17.8.1.1	3-89	5	"Basin, serves and a major" should read "Basin serves as a major" (Best)	Yes	

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	Draft Stream Protection EIS Section 3.18
Contact Information: Marcelo Calle	
Name	Dale Herbort, Foster Kirby, Becky Hatmaker, DHR VA
Telephone Number	303 293 5035
Email	mcalle@osmre.gov

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
	3.99	29	"Archeological and other cultural resources may date back to 1650" should be Historical and other cultural resources. Archeological resources date back many thousands of years.	Y	Y	Apply changes per comment.
3.18.1.2	3.97		Need to concentrate intro discussion on general archeology of Appalachian Basin		Y	
	3.97	39	The Koasati- lived Delete hyphen	Y	Y	Apply changes per comment.
	3.97	8	"located on or next to streams" The only resource located on a stream is a bridge. No archeological or prehistoric site is located on a stream. Sites are located adjacent to or along streams.	Y	Y	Apply changes per comment.
	3.95	11+	Add discussion of SMCRA regulations particularly 30 CFR 779.12(b), 780.31, 783.12(b), and 784.17.	Y	Y	Apply changes per comment.
	3.94	12	Add historical to list of properties.	Y	Y	Apply changes per comment.
	3.94	21	Replace undertaking with relationship.	Y	Y	Apply changes per comment.
	3.93	11	Regulations under the PRPA are to be developed by various Federal Agencies		Y	
3.18.0.2	3.93	14	Add the Surface Mining Control and Reclamation Act of 1977 to the list of federal regulations.	Y	Y	Apply changes per comment.
3.18.0.3	3.93	25	The Section 106 process applies only to federal lands and federal coal. Cultural resources on state and private lands are handled under approved state SMCRA programs. SMCRA requirement are similar to Section 106 requirements but don't	Y	Y	Provide clarification on this distinction.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			specifically mirror them.			
	3.93	31	Add specific citation for National Register of Historic Places consideration at 36CFR Part 60.	Y	Y	Apply changes per comment.
	3.92	10	Architectural and historic period resources	Y	Y	Apply changes per comment.
3.18 Archeology	3-92	9	Native American burial mounds is a cultural resource type, not a typical environment	Y	Y	Apply changes per comment.
	3-92	14	"For the purposes of this document" should begin new paragraph on discussion of paleontology	Y	Y	Apply changes per comment.
3.18.0.1	3-92		Need to include discussion of fossil management and protection as currently applied under Federal Land Policy and Management Act (FLPMA)	Y	Y	Apply changes per comment.
3.18	3-92	19, 20	Delete end sentence. Line 15 covers fossils.	AR (BH)	Y	Last sentence is unnecessary. Delete.
3.18.0.1	3-92	22-24	Expand to include listing of federal regulations/laws to resemble Section 3.18.0.2 description.	AR (BH)	Y	Apply consistency edits per comment.
3.18.03	3-93	22-30	Sentence appears incomplete and for that reason does not make sense. We suggest: Section 106 of the requires Federal agencies to take into account the effects of their undertakings on historic properties, and afford the another federal agency, the Advisory Council on Historic Preservation a reasonable opportunity to comment. I suggest deleting a reference to the Alabama Historical Commission. The Advisory Council provides guidance documents under Working with Section 106 on its web site: http://www.achp.gov/aboutachp.htmlhttp://www.achp.gov/work106.html.	DHR VA (EE)	Y	Revise reference, review comment and apply as applicable.
	3-94	21	Insert "by" ----conducted "by" federal agencies	Y	Y	Apply changes per comment.
3.18.0.3	3-94	10-17	This section is confusing. I think the intent is to mention the participants in the Section 106 process, and yes, the State Historic Preservation Officer (SHPO) plays a big role. However, The important point to make is that Section 106 is not triggered by the presence of an historic property but by the involvement of a federal agency. Section 106 is the responsibility of the federal agency, not the SHPO (and in reading this section one might get that impression). It is very important to note a process of consultation, and not just consultation with the SHPO. The consulting parties include	DHR VA (EE)	Y	Provide clarification addressing this comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			the SHPO, Indian tribes, local governments, and applicants for federal assistance, permits. licenses or other federal approvals. Others with a demonstrated interest in the undertaking as well as the public must also be included. The role of the SHPO in this section should focus on Section 106, rather than getting into CLGs, etc. The SHPO's role is to advise and assist the federal agency in meeting its 106 responsibilities.			
3.18.0.3	3-94	18	I think some words are missing from this sentence. It is the responsibility of the agency official to make a reasonable and good faith effort to identify Indian tribes that should be consulted in the section 106 process. Consultation with an Indian tribe must recognize the government-to government relationship (not "undertaking" as appears in the draft) between the Federal Government and Indian tribes. This is an affirmative responsibility and the word generally should be deleted. The Advisory Council's guidance entitled *Consultation with Indian Tribes in the Section 106 Process: A Handbook* (November 2008) provides a summary of the legal l requirements up to 2008 on pages 3-5. In addition there is the 2009 Presidential memorandum regarding tribal consultation. And note that these requirements apply to all mining states and are not limited to those states with resident federally recognized tribes. Frequently historic properties of religious and cultural significance are located on ancestral, aboriginal, or ceded lands of Indian tribes and federal agencies need to should consider that when complying with the procedures in (36 CFR Part 800.2(c) (2)(ii)(D)). It is a common misunderstanding is that tribal consultation is only required for undertakings on tribal lands, when, in fact, consultation is also required for undertakings that occur off tribal lands. Tribal consultation for projects off tribal lands is required because the NHPA does not restrict tribal consultation to tribal lands alone and those off tribal lands may be the ancestral homelands of an Indian tribe or tribes, and thus may contain historic properties of religious and cultural significance to them. Section 106 requires that agencies make a *reasonable and good-faith effort* to identify Indian tribes that may attach religious and cultural significance to historic properties that	DHR VA (EE)	Y	Review reference, review comment and changes apply as applicable.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			may be affected by the undertaking, even if tribes now are located a great distance away from such properties and undertakings. This is because many Indian tribes were removed from their homelands, while others traditionally moved from place to place. For this reason an Indian tribe may very well attach significance to historic properties located in an area where they may not have physically resided for many years. As an example from the east coast, the state of Virginia has at present no resident federally recognized tribes. Nevertheless there are 16 federally recognized tribes actively consulting on undertakings on what was once their ancestral lands in Virginia. Guidance of how to identify such tribes is given in the Advisory Council's *Handbook* referenced above.			
3.18.5.2.2	3-112		Montana – where is the prehistoric discussion? Lewis and Clark are not the first white explorers. The French are stated one paragraph down to be in North Dakota by 1738. I'm sure they moved into Montana and mapped the headwaters. They sold it to the Americans. Lewis and Clark diaries talk of encountering French speaking Christianized tribes such as Flathead, Kootenai and Spokane in the western mountains. Lewis and Clark's guide – Charbonneau – was a French Indian. I guess the writers do not believe the French are white folk.		Y	Describe prehistoric relavence and strike 'first white explorers".
3.18.2.2			Where are individual site discussions? If duplicative, reference them out		Y	Include a consistent format. Apply change per comment.
3.18.5.1.2	3-110		Paleontology discussion for Montana. Where are the dinosaurs? The state fossil is dinosaur. There are numerous dinosaur museums. Jack Horner and numerous other professionals have their offices in Montana. Big topic across northern, central and eastern Montana where the coal fields are located.		Y	Dinosaur fossils are significant to Wyoming and Montana. Include this detail in Paleontology.
3.18.5.1.4	3-110		Wyoming –Where are the dinosaurs? Dinosaur wars of 1900 in Worland area of WY. There are dinosaur museums in every part of WY. What about the fish fossil deposits at Fossil Butte National Monument just north of the Kemmerer Coal Field. Pretty scant discussions on fossils.		Y	Dinosaur fossils are significant to Wyoming and Montana. Include this detail in Paleontology.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
	3.110	All of section	The discussion of the archeology of this area is sorely lacking. More archaeological inventory and data recovery associated with coal mining has been conducted in this region than any other perhaps with the exception of the Southwest. The discussion should acknowledge this.		Y	Provide discussion of mining as a significant source of archaeological discovery.
3.18.1.2	3-97		There is no summary discussion of the archaeological evidence or cultural resource evidence found within the region. This is done in some regions, and not in others. Consistency in write-ups needed.	AR (BH)	Y	Review this comment and check for con sitency.
3.18.4.2.1	3-110		Where is the discussion for the state of Illinois – lots of well published archeology there.		Y	Include state discussion consistent with format.
3.18.5.2.3	3-112		North Dakota Is there a historical narrative? What about prehistory?		Y	Include state discussion consistent with format.
3.18.5.2.4	3-112		Wyoming. Where is either prehistory or history? More archeological work has been conducted in the Powder River Basin of Wyoming and Montana than any other coal bearing region in the USA. How about migration trails, westward migration. Indian wars, etc. German nobleman Verendrye made two expeditions of 200 wagons with supplies and 600 retainers crossing Wyoming, Montana and up into Canada in the 1780s. Guess the Germans aren't white either.		Y	Include state discussion consistent with format.
3.18.7.2	3-115		There are no state discussions for the western Interior region on prehistory/history. If discussed elsewhere, reference it out.		Y	Include state discussion consistent with format.
			I really get the feeling that the writers just got tuckered out when they got to the Great Plains-Rocky Mountain region and western Interior region. It really shows in their lack of adherence to their format and the lack of research done even at the slightest cursory level.		Y	Verify format is consistent.
3.18	3-92	3	Historic and cultural resources are often used interchangeably. However, this sentence appears to make a distinction between "historic" and "archaeological" resources when in fact historic resources (or cultural) resources is a broad category that includes archaeological sites, both historic and prehistoric. The term "cultural resources" is not defined in NEPA, or any other federal law. It may be broadly interpreted to refer to culturally valued aspects historic properties, other culturally valued pieces of real property, cultural use of the biophysical environment, and such "intangible" sociocultural attributes as social cohesion, social institutions, lifeways, religious practices, and other cultural institutions(NPI *Tools for CRM.*	DHR VA (EE)	Y	Review reference, review comment and changes apply as applicable.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			http://www.npi.org/NEPA/whatare.html). The term "historic property" does have a legal definition. The regulations implementing Section 106 of the National Historic Preservation Act at 36 CFR Part 800.16(l)(1), define *historic property* as follows: *Historic property* means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria. It would helpful to mention landscapes, both ethnographic and historical, including battlefields.			
	3.103	9	In general there are numerous identified and potential TCP in the western region because of the large native American population and their deep religious and cultural history. See previous TCP discussions. Perhaps provide an example(s) of a known TCP such a New Echota in Georgia See previsions TCP discussions. An example of a TCP in this region is Devil's Tower, Wyoming Discussion needs to expand on detail of Section 106 regulations Also needs to expand discussion of TCP as site type, adding that TCPs are more recognized in western states due to the presence of Indian Tribes and reservations - Section 106 requires consultation with the Tribes to specifically identify TCPs and sacred properties	TCP	Y	Review reference, review comment and changes apply as applicable regarding TCP details.
3.18.1.2	3-97	22-27	No need for TCP discussion as it is already on 3-94 in Section 106 discussion. Do not need to repeat it in each regional introduction		Y	Edit content to reduce redundant duplication of material.
3.18.1.2	3-97ff		The summary statements on archaeology are really not helpful. A more regional approach to prehistory would make more sense. We agree that discussing expected TCP resources in each state is not feasible. (p. 3-105) And yes,	DHR VA (EE)	Y	Edit content to reduce redundant duplication of material.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			historic archaeological resources reflect the state's history. Does this meed to be repeated each time?			
3.18.03	3-94	22	Very good to mention TCPs, but it would make more sense to include this with the earlier discussion of cultural resources in the introductory paragraph of 3.18, p. 2-92.	DHR VA (EE)	N	This comment has been addressed.
3.18.1.2	3-97	12-22	The entire discussion on TCP's should be moved to/incorporated with the TCP discussion under 3.18.0.3. This is true for the other regions where the same discussion is inserted; Colorado Plateau, Gulf Region, Illinois Basin, and Northern Rockies & Great Plains.	AR (BH)	N	This comment has been addressed.
	3-102	3	Discussion of TCP as a site type is already done in 3.18.0.1 No need to reiterate it verbatim here.		N	This comment has been addressed.
	3.102	22	May want to note Dinosaur National Monument as an important paleontological site with public interpretation.	N	N	There is no mining in National Monuments. This information is not necessary.
3.18	3-92	12	Recommend adding to surrounding communities, including Native American communities. Moreover we suggest adding The remnants of historic mining activity may themselves be historic properties. As stated in the National Register Bulletin 42, *Guidelines for Identifying, Evaluating, and Registering Historic Mining Properties The physical remains of mines may include standing buildings, structures, and other architectural remains; machinery; archeological remains; and landscape features such as mine waste rock dumps, mill tailings, water delivery systems, open pits, and roads. Archeological remains, which may be the most abundant, typically include prospects, privy pits, wells, cellar holes, building foundations and platforms, dugouts, domestic and industrial trash dumps, isolated artifacts, collapsed headframes, machine pads and platforms, depressions, roads, ditches, pathways, and bulldozer cuts.*(National Register Bulletin 42. *Guidelines for Identifying, Evaluating, and Registering Historic Mining Properties*).	DHR VA (EE)	N	This discussion is adequately described for the intent of this EIS.
	3-94		Need New Heading – Federal Agency Regulations		N	Editorial change is not necessary.
	3-94	32	BLM regulations should not be part of 3.18.03 discussion but put into new federal agency regulations		N	This section is under the title Federal Laws and Regulations.
	3-94		Agency regulations should include SMCRA/OSM regulations specifically noting that SMCRA requires that State Programs are to be no less effective than Federal rules and regulations		N	This comment has been addressed.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.18.0.3	3-94	21	Add "by" –"conducted by federal agencies..."	AR (BH)	N	This comment has been addressed.
General Comment			Be consistent with writing of CFR cites.	AR (BH)	N	This comment will be addressed.
3.18.1.2.5	3-100	37-38	Expand the Tennessee "Architectural Resources" section.	AR (BH)	N	This level of detail is not significant to the scope of this EIS.
3.18.1.2.6	3-101	14-15	Expand the Virginia "Architectural Resources" section.	AR (BH)	N	This level of detail is not significant to the scope of this EIS.
			General Comment: Regional discussions with general paleontology for each state is generally pretty good and consistent in format There are some exceptions which will be discussed in order of occurrence		N	No change needed.
			General Comment: Regional discussions on archeology is absent in some regions, very good synthesis in others. Format is inconsistent between regions.		N	No change needed.
General Comment			Descriptions of resources given to certain regions and states within regions are too variable. Little information is given to some while others are very descriptive/informative.	AR (BH)	N	This comment has been addressed.
3.18.1.1.7	3-96	33-36	Expand paleontology description to be consistent with other states within the Appalachian Basin.	AR (BH)	N	This comment has been addressed.

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	3.19 Socioecon / Enviro Justice
Contact Information	
Name	Combined
Telephone Number	
Email	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
General Comments			Kane County in southern Utah should be considered within the scope of this EIS and this Socioeconomics section since UDOGM recently issued a Utah permit for a new surface coal mine on private land in Kane County, Utah. An LBA is currently underway for adjacent coal and federal land where more extensive mining, needing a SMCRA permit is anticipated in the future. This mine will be directly affected by any new stream protection rules. Coal production from the Coal Hollow Mine in Kane County is expected to begin within a few weeks (not months, as originally reported in the main body of Ch3 comments). It is noted that two Montana counties with future coal mines are also being addressed within the scope of this EIS (3.0.2, page 3-4, lines 4-5). Kane County is in a similar scenario, and should be addressed. At this point, this section does not characterize in meaningful detail some significant socioeconomic aspects of coal mining. The reported unemployment and tax numbers are helpful. Some of the direct and indirect socioeconomic factors (direct and indirect coal mining jobs, wages, etc) of coal mining on local communities are not addressed, however. This information could be included in Chapter 4, but might fit better in Chapter 3, just as the characterization of mining itself (methods, equipment, etc) is included in Chapter 3.	UT	
General Comment			There should be more discussion about the potential EJ communities and the impacts of the proposed rule or alternatives. If there is an adverse impact, what mitigations might be used to reduce that impact?	EPA	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.19	3-2	10	This section needs an introduction which describes the Environmental Justice Executive Order (E.O. 12898) and includes as well as OSM's own policies, such as : . *The Environmental Justice guidance on Indian lands includes such measures as providing local tribal chapters or other recognized groups with copies of all public notices published by OSM or the coal operator; easily understandable descriptions and maps of the proposed action; location of any related materials for public examination; radio announcements on local-language radio stations; advertising meetings and hearings on local newspapers and on local radio stations; holding meetings at a local convenient to affected populations; providing translators for non-English speaking participants; providing native-language educational materials on mining and reclamation operations; and involving local communities in development of post-mining land uses.* http://www.doi.gov/oepc/ej_examples.html and the April 1, 2010 Memorandum Improving EPA Review of Appalachian Coal Mining Operations Under the Clean Water Act, National Environmental Policy Act , and the Environmental Justice Executive Order. We also note that because it is a process of consultation, Section 106 of the NHPA can help to resolve environmental justice issues.	VA DHR	
3.19	3-2	13-15	It is noted that two additional Montana counties with future coal production are included in the scope of this EIS. Utah's Kane County is currently not included, but it should be included in the scope of the EIS (including the economics section) since a permitted surface mine in Kane County is expected to start producing coal within a few weeks. Rule changes may affect socioeconomics of the mine, nearby towns, Kane County, and the State of Utah.	UT	
3.19.1.1	3-3	15	Labels are too small and are illegible. (This comment extends to all charts within this chapter.)	EPA	
3.19.1.1.2.6	3-27	1-6	It is not clear at all how the proposed action would impact (or potentially impact) average family size. While this comment can be made for other categories of information in this section, it is particularly pronounced for this one.	EPA	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.19.1.2.1	3-30	9-12	To better characterize the demographics of the mining industry, it should be noted that the workforce that assists and supports the mining industry is ten-fold the number given in Table 3.19-6.	St KY	
3.19.1.2.3	3-40	4-5	In addition to comparing unemployment in Appalachia to other coal regions, this should compare unemployment in coal regions of Appalachia (and other regions) to unemployment across the nation as a whole. In general,	EPA	
3.19.1.2.6 and 3.19.1.2.7	3-47 thru 3-57	---	Currently, Tables 3.19-15 through 3.19-20 (located in the Appalachian Basin section) seem out of place, since they contain data on the other coal-producing areas as well which should be referenced in other sections if significant. Creating regional or individual state tables with different categories from the individual tables might help.	UT	
3.19.1.2.6	3-50 & 3-51	8 and 1	This table would benefit from citations to specific State regulatory provisions setting these tax rates.	EPA	
3.19.1.2.8	3-59	13-28	This section should undoubtedly include a discussion of plans developed by the Appalachian Regional Commission.	EPA	
3.19.1.3	3-59	30-32	While the quality of life review covers a good range of factors, it probably should be mentioned that the Quality of Life section does not address all of the factors associated with quality of life. Other factors can include things such as job security, religion and community life, climate & geography, cost of living, community appearance, etc. (for example, http://www.economist.com/media/pdf/quality_of_life.pdf)	UT	
3.19.1.3.2	3-59 to 3-60	37 – 2	It is not at all clear how this rule would affect the per capita rate of police. The same comment goes for firefighters.	EPA	
3.19.1.3.5	3-62	13-20	It does not seem likely that surface coal mining activities would ever occur in urban areas that would possess regularly scheduled, fixed-route public transit. If this is the case, then discussions of this topic are likely not helpful within this EIS because such transit would not be affected.	EPA	
3.19.1.4	3-65	35-38	This chapter and previous chapters are lacking a clear sense of how environmental justice is relevant to this rulemaking.	EPA	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			Citing EPA's definition of EJ is helpful but does not create any link between EJ and this action, which is left unstated. A similar comment can be made for many other sections of Chapter 3 but is particularly obvious here.		
3.19.1.4	3-66	3	Need to discuss Executive Order 12898 in this section.	USEPA	
3.19.2	3-68	12	The new surface coal mine in Utah's Kane County will raise the number of coal-producing counties in the Colorado Plateau from 14 to 15.	UT	
3.19.2	3-68	12	The true socioeconomic impact of coal mining in Utah (and presumably elsewhere) extends to nearby non-producing counties. This type of relationship was recognized by the authors when they identified the American Indian entities "abutting ten coal producing counties" shown in *Table 3.19-33*. However, counties with populations connected with the coal mining industry that abut coal producing counties have not been analyzed. DOGM doesn't intend to overstate the impact of coal mining on such counties in Utah or nationwide, but suggests that this analysis should be considered, even generally, to provide a consistent evaluation. The direct and indirect impacts of the coal mines on Sanpete and Garfield is significant, as evidenced by their inclusion in other coal-related NEPA analyses, such as: - Alton Coal Project EIS (not out for public review yet - Foster Kirby, from OSM in Denver, can provide info) (http://www.blm.gov/ut/st/en/prog/energy/coal/alton_coal_project.html) - Green's Hollow Coal Lease Tract Draft EIS. 3.8 Socioeconomics section (http://a123.g.akamai.net/7/123/11558/abc123/forestservic.download.akamai.com/11558/www/nepa/50297_FSPLT1_025174.pdf) For example, Sanpete County (in Utah) does not yet produce coal and has relatively few reserves, but the active SUFCO mine (located mostly in Sevier County) employed over one	UT	

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			hundred of Sanpete's 10,000 person workforce as of 2006 (Green's Hollow EIS), providing significant income to three Sanpete communities. The Skyline Mine is located much closer to Sanpete communities than SUFCO, and large numbers of the mine workforce are also known to live in those communities. Another Wasatch Plateau coal mine is also likely to employ Sanpete residents. Garfield County, UT (not Colorado's Garfield Co.) is adjacent to future coal-producing Kane County, and will also likely be impacted economically and socially by of coal mining. Transportation of coal through adjacent Garfield County has been a major issue during the permitting and Garfield County should also be included in the analysis of socioeconomics and environmental justice. The Henry Mountains Coal Field, where coal reserves of significant interest for future mining are located, is also in Garfield and Wayne counties.		
3.19.2.1.2.1	3-68	29-34	Documentation of the socioeconomics associated with mining should be included somewhere in the EIS. This or the next section seems like the logical place to do it. "Per capita income" helps report baseline data for the counties, but it doesn't describe the coal mining socioeconomics. One can't safely equate "per capita income" with mining income alone, and "per capita income" doesn't account for the variation by county of the dependence on coal mining or other socioeconomic factors. One way to characterize the socioeconomics of coal mining would be to compare average county, state, or even regional coal mining wages with those of other industries, such as was done in the Green's Hollow Coal Lease Tract Draft EIS. Mining wages were tabulated with other "average monthly non-agricultural payroll wages", and were compared as follows: "In 2006, mining in Emery, Sanpete, and Sevier counties provided 48, 66, and 53 percent higher monthly wages than the average payroll wage and 23, 8, and 26 percent higher monthly wages than the	UT	

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			non-agricultural payroll wage, respectively." (Green's Hollow Coal Lease Tract Draft EIS) – original source: State of Utah		
3.19.2.2	3-74		The SPR EIS socioeconomic analysis does not attempt to discuss any specific direct or significant indirect existing socioeconomic impacts (which can be both positive and negative) that are associated with coal mining (such as numbers of mining jobs and average wages). Unless they have been already determined to be insignificant or justifiably not important for this rulemaking EIS, or are to be included in a subsequent chapter, UDOGM thinks that they should consider analyzing some of these impacts. MSHA or the National Mining Association might be good sources to consider for numbers of direct mining jobs. Some of the direct and indirect socioeconomic benefits of coal mining on the coal-producing counties in Utah are discussed in "Utah's Coal Industry: Economic Contributions and Future Prospects", a study published by the University of Utah and found at the link below: http://www.bebr.utah.edu/Documents/uebr/UEBR2009/UEBR2009no4.pdf	UT	
3.19.2.2.1	3-75	1	Data on Utah should be (but is not) included in Table 3.19-25 (Employment by Industry 2009 (by NAICS Supersector)).	UT	
3.19.2.2.2	3-77	1	It will be more difficult to effectively evaluate the true effect of rulemaking on mining jobs if the numbers that are analyzed are the mixed agriculture, mining, forestry, and other jobs. This might be some of the most readily available data, but the limitations with the data should be acknowledged if more specific data are unavailable. Tables 3.19-26 (Workforce Characterization (Labor Force by Industry (NAICS Supersector))	UT	
3.19.2.2.3	3-79	Table 3.19-28	The "0.0"s in the columns adjacent to the state names are confusing and should be removed.	UT	
3.19.2.2.7	3-84	4-5	"...total tax revenue, the greatest portion was derived from sales taxes, 35.7%. At over 19%, severance taxes accounted for the second highest share of total tax revenue, followed by individual..." (Otherwise two "highest" shares/portions)	UT	

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3.19.2.2.8	3-84	30	The break between the Utah and New Mexico sections has been deleted, and they run together. Insert a break.	UT	
3.19.2.3.8	3-86		Utah's coal-producing counties (Carbon, Emery, Sevier, and Kane Counties) also contain state and national parks and national monuments and recreation areas.	UT	
3.19.2.4.2	3-87	16-25	"Per capita income" cannot be even loosely equated with the coal mining income in all coal-producing counties, as other socioeconomic factors exist. This fact should be acknowledged so as to not be misleading. In local NEPA analyses, other socioeconomic factors are evaluated together with those of coal.	UT	
3.19.2.4.3 and Table 3.19-33	3-88	14-16	Also add a line for the Navajo Reservation, which abuts Kane County (where a new surface mine is starting). In Utah, the Uinta-Ouray Reservation (no "and") abuts Emery and Carbon Counties.	UT	
3.19.6.4	3-161 et seq.		**Description of Environmental Justice** This portion of draft Chapter 3 provides certain statistics concerning tribal, minority, low-income, migrant, and child population segments of the various study regions. It also quotes the USEPA definition of environmental justice (EJ). However, nowhere does the draft describe how, in fact, environmental justice is currently addressed under SMCRA. The draft should be revised to add, at the least, a brief summary concerning existing practices related to EJ, similar to relevant portions of the description of EJ in the 2008 EIS, on p. IV-167. I.e., it should very briefly summarize the Executive Order on EJ and any relevant guidance from CEQ and USEPA, and briefly describe how existing OSM and state regulatory programs relate to EJ. (We already know that this topic will be closely scrutinized.)	CAS SOL	

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	3.20 Occupational/Health and Safety
Contact Information	
Name	Combined
Telephone Number	
Email	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.20	3-115	23	"Production ~~was~~ can be associated" Explanation: "was" refers to past tense and certain conditions of that past that should be stated. What is the present impact of "residential proximity to heavy coal production" on human health?	StUT	Production IS associated...
3.20.1	3-117	19	explosions (plural)	StUT	OK
3.20.4	3-118	13	"blasting, drilling, cutting, loading, hauling and transporting coal" (Add loading and hauling if you want to be more specific)	StUT	NO, "transporting" is OK
3.20.4	3-118	14	~~"More dust is generated with mechanized mining than with manual methods, and s~~Some" Explanation: Nearly all modern mining methods are mechanized.	StUT	OK
3.20.4	3-118	22	"Coal mine dust ~~causes~~ can cause" Explanation: If it's not inhaled, it won't cause a problem.	StUT	OK
3.20.4	3-118	25	"There ~~are~~ can be some rheumatoid-like reactions with exposure to coal mine dust as well"	StUT	Some rheumatoid-like reactions have been observed after exposure to coal mine dust.
3.20.5	3-118	28	Incomplete sentence. Finish with "encounter" ?	StUT	Breathe
3.20	3-119	23-32	Are all of these findings associated with the same source (Hendryx and Abern, 2008)? I assume so, but don't know for sure. The way it is written, it could be understood to reference just the last sentence of the paragraph. Consider placing the reference after the period.	StUT	Citation problem; need consistent application of citations
3.20	3-119	33-36	This paragraph shouldn't need a reference as it is. Stating in a sentence that this section draws on a particular reference would be more correct.	StUT	OK
3.20.1	3-121	16	Needs a citation to 30 CFR for the regulations	CG SOL	OK

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.20	3-121	L 17-22	Where are Chapter I, Chapter O, and Subchapter I – are these part of the 30 part 75 regulations, the Act or where are they located?	KJ	
3.20.2	3-121	L-24-25	Actually OSHA does have jurisdiction on some preparation plants, so this technically is incorrect.	KJ	OK
3.20.3	3-121		It might be wise to mention that NIOSH didn't enter into the mine health business until the BoM was abolished in 1995 & most of their duties for research were given to NIOSH & parts of the USGS.	KJ	NO
3.20.4	3-122	title	"Typical Health and Safety Effects for Mining" Not sure I understand this. Are these the results OF mining, rather than FOR mining?	KJ	OK
3.20.4	3-122	3	The term "physical hazards" infers much more than health hazards of noise, vibration, heat, etc. Consider replacing with "physical **health** hazards". Otherwise, rock falls, moving equipment, and other "physical hazards" might be inferred.	StUT	Safety Hazards
3.20.5	3-118	28	Airborne dust that miners breathe.	StUT	OK
3.20.5	3-123	L-1-11 l-29	"silica can cause silicosis, a typical pneumoconiosis that develops…" My understanding of these two diseases are the source materials differ, thus the names are different. Silicosis is from mining of silica (sand or quartz rock), however pneumoconiosis is strictly from coal, thus less technical name black lung. I don't think the terms are interchangeable. From emedicine "Silicosis, asbestosis, and coal-workers' pneumoconiosis (CWP) all belong to a group called pneumoconioses. The exact translation of this word is lung dust." "In 2001, the number approached 3,000 units." I'm pretty sure MSHA tracks the number of pieces	KJ	

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			in each mine, so this number, nearly 10 years old now, is really outdated.		
3.20.6	3-123	L 33-34	"The most important naturally occurring gases 34 are methane and hydrogen sulphide in coal mines." I would argue with this general statement, particularly having worked ventilation in the western mines, the presence of H2S. There is only one mine in the western region that I know of that ever produced H2S. Outside of the presence of CH4, I would agree the other most prevalent gas is CO – from combustion & decomposition – PARTICULARLY from sealed areas (called Black Damp in all mines). It was also found in a CO mine occurring naturally in the coal seam.	KJ	Should be methane and CO
3.20.7	3-124	L-11 L17&18 L 17&18	"powerful machines, fans, blasting (though rare in coal) and transportation" You might also add "underground crushing". "deeper than 1,000 meters) can pose significant heat problems, with the 18 temperature of mine ribs about 40□C. For surface…" I would suggest using the English units (feet & Fahrenheit), with the metric units in parentheses as this EIS is aimed at US citizens, most of whom don't regularly use metric. "In the United States, this health impact would only be seen in a deep mine in Alabama, located in the Appalachian Basin region." I'm not sure of the	KJ	L-11 - OK L17/18 – OK L 17/18 2nd – OK

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			criteria used for the basis of this statement – a combination of depth & temperature or what? A number of UT & CO mines have historically had 2500-3000' of cover, and generate CH4.		
3.20.8	3-124	L24	'prevalence of CWP and silicosis in Underground coal miners' I have rarely heard of coal miners developing silicosis unless they have a very high silica content in the coal. I know black lung (due to increased coal production on longwall operations) is indeed increasing.	KJ	OK
3.20.8	3-125	I-8	"CWP identified in Table 3.20-8." This table is actually a comparison of fatal & non-fatal injuries, rather than a differentiation of the types of illnesses.	KJ	OK
3.2010		General comme nt	*Electrical shock is a possibility both UG & surface mining.* *Drowning in UG operations (Cue Creek) by inundations. What about being crushed/run over by large equipment.* *Earthmoving hazards would also include failures of the highwalls at either surface or UG (portal area).* *You might also mention the difficulty of finding miners (esp in the east) that don't test positive for drug use. Use of drugs or fatigue w/ longer shifts is now a huge problem.*	KJ	NO
3.20.10	3-122	2	The principal safety hazard underground in the falling of the face...	StUT	OK
3.20.10	3-122	4	The top five most common accident reported by MSHA	StUT	OK
3.20.11	3-123	"TABLE 3.20-2"	Captioning problems start here: Figures 3.20-1 through 5 captioned as tables. This results in table captions being mis-numbered, starting with table 3.20-2, which is captioned 3.20-6, and continuing through the remainder of section 3.20.	St NM	OK

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	3.127 –3.2-128 3-130	Figure 3.20 – 2 thru 3.20-5 L-2	*These graphs may not reproduce properly in b&w the EiS is published in simply B&W. Symbols should be used to assure clarity of published information in case the EIS isn't reproduced in color..* *Use "Colorado Plateau" rather than just CO in graphs. Two lines, as w/ other regions.* "Figure 3.20-3 indicates that highest rate of annual fatalities occurs at surface coal mines in the Northwest region, which is almost four times the rate of fatalities of any other coal mining region." When I look at this table, I have no idea what the basis for this comment is – there are no numbers & the color is barely above the line. When I look at figures 3.20.22 & 23 I really see no basis for this comment – the numbers for AK & WA are significantly less than UT, W-KY & other eastern states. "involves the Back" CHANGE to 'back injuries"	KJ	OK
3.20.13	3-129	11	This statement as written is technically incorrect, since there are underground mines in Arizona (but they are not coal). We suggest the addition of specifying information (coal) in this case and in a number of other such cases found in this section. Three cases of an unknown number of cases are identified below. Suggestion: "There are no underground **coal** mines **currently in production** in Arizona."	StUT	No underground COAL mining in Arizona
3.20.14	3-131	7	There are no active underground coal mines in this region.	StUT	OK
3.20.15	3-132	4	There is no active underground coal mining in the Gulf Region.	StUT	OK
3.20.24	3-138	6	There are no active underground coal mines in this region.	StUT	OK

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3.20.15.1	3-137	15	This section states "Indiana has a low number of fatal and non-fatal injuries; however, this may change in the future (Section 3.2.4.2)." Section 3.2.4.2 appears to be titled "Region Seismicity" and appears to be specific to Alaska. As a result, we are not certain as to this reference and we are also uncertain what this statement is based upon given the statement that the number of fatal and non-fatal injuries may change in the future. While we do not have information as to where this statement was derived, we believe it to be one of an arbitrary nature.	St IN	Check for accuracy on last coal produced date in state of WA – writing talks of 'ac tive mine' as opposed to last date coal produced. Should clarify.. 3-133 strike 'may change in the future.'change seismicity to label Alaska only if accurate.

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	EIS Chapter 3 - 3.3 Soils
Contact Information	
Name	Reconciled
Telephone Number	
Email	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
General Soils Comment			The soils section provides very general and brief soils information for the OSM Mid-Continent Region (MCR). The Ecological Subregions descriptions appear to come from the USDA Forest Service descriptions compiled by McNab et al. It was noted by the authors that the dominant soil orders, suborders, and soil associations of the ecoregions (Ecological Subregions) are from McNab and Avers 1996. Because of this very general and brief presentation of soils information there is very little technically to comment on. Some of Ecological Subregions and Associations cover areas that have never been mined for coal and economically/technologically will never be mined for coal (example: Flint Hills – KS). It is recommended that we focus on the soil resources that could be impacted by coal mining. This can be accomplished by overlaying economically viable coal reserves (USGS National Coal Assessment Program, Luppens et al) over the soil associations to have a better idea of potential impacts to soil resources. Luppens and others (Gary McIntosh past OSM TIPSter) in the USGS National Coal Assessment Program have developed some very nice GIS programs and tools for this type of work. (Joseph)	Yes	Agree with these comments. Please revise text using the approach suggested to focus on the areas where coal production is likely. The data appears to be readily available and the use of GIS tools should make this analysis less complicated.

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General Soils Comment			A discussion should be included on the creation of new soils by coal mining and the classification these soils in many of the MCR States (IL, IN, KS, TX, others). This would include the creation of Prime Farmland soils in TX through soil substitution. This defines the soils resources in the coal fields that are now developed since coal mining and reclamation has occurred under the SMCRA. (Joseph)	No	Duplicative. Comment is addressed in disposition of comment on pg.3-44, line 20-24
General Soils Comment			Significant areas have been previously surface mined for coal in much of the MCR coal fields. We should discuss Abandoned Mine Lands (AML) and the associated soil descriptions. This defines a resource or loss of a resource in these areas. Also significant impacts to soil resources can be seen in areas of pre-SMCRA underground mining. (Joseph)	No	Agree in part. While the AML information may help focus the discussion, this EIS and rulemaking focus on future mining operations.
General Soils Comment			Throughout the document the misspelling of "Molisols" needs to be corrected to Mollisols or Mollisol as appropriate. (Joseph)	Yes	
3.3.2 General Comments			Why is this done based on ecological regions and not on coal field region? The Co Plateau covers a HUGE range of soils and this section would make much more sense if it was done based on the coal fields not on eco-regions. There is not much that can be technically reviewed since it is very general. **This section needs maps**. This section leaves out Arizona. (McGregor)	Yes	Arizona should be included. More focused discussion of the coal fields versus broader ecoregions is appropriate.
3.3.5 General Comments			Once again soils should be described by the coal region not by the eco-region. The variability of this area is HUGE. A map needs to be included as well. (McGregor)	No	Duplicative of above general comment
3.3.6 General Comments			It is interesting that this section includes information about Washington soils when the beginning of the EIS does not include the State of Washington in its scope. This section should focus on describing the soils in the coal region only. Need a map for this section. (McGregor)	Yes (for first sentence of comment)	It is interesting that Washington State is discussed in the soils section but is not identified as being in the study area under Section 3.0.2 – Study Area

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3.3.2	3-12	1	The Appalachian Basin Region Seismic Hazard Map (Fig 3.2-4) is placed in the section about the Colorado Plateau Region. (Virginia)	No	Comment incorrectly labeled as soils. Comment was moved to geology and seismicity section 3.2
3.3.0	3-36 to 3-38	Multiple Pages	Soils Section – This section seems to indicate that much of the soil on mining sites is recovered or recycled. In the Appalachian top-soil is typically not saved for reclamation. This should be discussed and the variances allowed for soil substitutes should be discussed. (EPA)	Yes	Accepted this comment to the extent that the existing regulatory requirements of SMCRA relevant to the handling of that portion of the soils referred to in Federal regulations as topsoil / topsoil substitute should be summarized in the introduction to this subsection discussion. Please provide a brief summation of what SMCRA requires under 30 CFR, Section 816/817.22.
3.3.0	3-37	33-39	Though KYDNR acknowledges soil was often removed and "lost" in the past, current regulations require that the topsoil layer be salvaged and stored until reclamation occurs. (Kentucky)	No	Duplicate of Virginia's comment for line 38 below
3.3.0	3-37	38	The use of past and present tense is inconsistent. Clarify past mining versus current practices - SMCRA regulations do not allow the movement of excavated soils downslope or into streams. A mention of current practices including topsoil segregation and sediment control, i.e. basins, is needed here. (Virginia)	Yes	The discussion in this paragraph (lines 33-line 2 on pg.38) blurs the distinction that needs to be made between pre-law mining and current mining practices. Under current mining practices, the soil growth medium for reclamation must be salvaged / removed and stored / protected or immediately redistributed on backfilled areas (see 30 CFR 816/817.22). While soil erosion from disturbed areas occurs, the impacts associated with soil erosion are greatly reduced / minimized under current mining practices / regulations (30 CFR

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					816/817.45. Suggest the paragraph be revised to make the distinction between the past (pre-SMCRA) and present mining environment relevant to soils.
3.3.0	3-38	10 - 15	I think we should use the original SMCRA preamble language and references regarding productivity and capability rather than a BLM reference. At a minimum we should use NRCS discussions on capability and productivity. I'm not sure why BLM would be an information source for this topic when we have sufficient coal mining and reclamation research on productivity and capability (OSM Publications and ASMR Proceedings). (Joseph)	Yes	Agree. Use SMCRA preamble language versus BLM reference.
3.3.1	3-38	19	Delete: from slumping and landslides (Virginia)	Yes	
3.3.0	3-38	3	This paragraph discusses how bad mining and reclamation is for compaction of soil. Why not also include how reclamation tries to prevent compaction and other adverse soil issues during the soil reconstruction process? (McGregor)	No	Duplicate of comment for lines 3-9 below
3.3.0	3-38	3 - 9	The introduction of surface mining impacts on natural soil is an important paragraph, but the current wording is inaccurate. For example: soil is removed but cannot be backfilled (line 3) unless a soil substitute is approved to replace it. Soil texture may be modified by mixing with a soil that has a different textural classification, but not by removal (line 4). The EIS should not be based on illegal actions such as mixing soil with mine spoil or using "improper storage" (lines 8 and 9). Again, the reclamation process does not backfill soils (line 9). Please have a soil scientist with experience in coal mining under the current regulatory program re-write this paragraph. (Joseph)	Yes	This paragraph is not reflective of current mining practices. Please revise the discussion to clarify that the discussion as presented here is reflective of what can happen during mining but that under current mining practices, measures are taken during reclamation to prevent excessive compaction of the growth medium as per 30 CFR 816.22(d)(1). Also, soils used as a growth medium are "redistributed" in lieu of "backfilled". Note that the NEPA document should be written in the context of compliance with

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
					the requirements of the regulations.
3.3.0	3-38	4 – 9	If this section is discussing mining and reclamation operations post-SMCRA then it is not correct. Please clarify if this is a pre-SMCRA discussion. (Joseph)	No	Addressed by comment / disposition for 3 – 9 above
3.3.1	3-38	7	Forestry reclamation approach is in wide use in the Appalachian basin, reducing compaction during reclamation. (Virginia)	No	Addressed by comment / disposition for 3 – 9 above
3.3.1	3-39	Table 3.3-1	Missing percentage of coal region in table for Ramsey-Muskingum-Lonewood-Lily soil association. (Joseph)	Yes	
3.3.1.1	3-40	5-8	Similar to comments earlier in this chapter, this chapter should not provide the impression that steep-slope mining must create valley fills in all cases. These two sentences – as written – reinforce this mistaken impression. Rather, it should be clear that in many cases they do produce fills, but there are often opportunities to prevent creation of fills using adjacent lands for spoil placement. (EPA)	No	This comment is to be argued in the discussion in section 3.1, not in a discussion of soils.
3.3.1.1	3-40	11	The Appalachian Regional Reforestation Initiative (ARRI) is providing science based reclamation practices to reclaim surface and underground mine sites to support forestland. (Virginia)	No	While the comment is correct, the comment provides no value related to the content of this section.
3.3.1.1	3-40	1-14	This section focuses on the negativity of mountaintop removal mining and valley fills. Postmining lands can be restored to commercial, residential, recreational, agriculture, forestry or fish and wildlife habitat equal to or greater than the premining land use. (Virginia)	No	While the comment is correct, the comment is more appropriate for the "land use" section.
3.3.1.1	3-40	12	Editorial: need a comma between rainfall and revegetation. (Joseph)	Yes	
3.3.1.1	3-40	2	It should be noted that coal has been mined for nearly 200 years in Kentucky. (Kentucky)	No	While the comment is correct, the text is accurate as well and the point of the comment is of little consequence.
3.3.1.1	3-40	4	Still another reference to "mountaintop mining." (Kentucky)	No	Addressed by comment / disposition for 3-40, 4-6 below

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3.3.1.1	3-40	4 - 6	Contractor indicated they would not be using the term "mountain top mining". Is the term used here as a quote or should the term used be "mountaintop removal mining?" Also, as an editorial comment, the Contractor uses the word mountaintop as one word in some places and two words in other places. Please be consistent. (Coker)	Yes	
3.3.1.1	3-40	5	Is the 2003 estimate for 40% MTM/VF mining the most current we have? If an updated number is available please use it. (Joseph)	Yes	
3.3.1.1	3-40	9	Disturbed acreage associated with surface mining in Appalachian area may be significantly smaller than 350 acres. Unless you have source quote for this acreage number, suggest you lower acreage range to 100 acres. (Coker)	Yes	
3.3.2	3-41	13	Generally formed in colluvium, not alluvium. (Utah)	Yes	
3.3.2	3-41	18	Ecological areas should include Great Basin and Range, High Desert. I think Section 3.12.2, Figure 3.12-3 and Table 3.12-5 present the ecological areas in more familiar terms that could be used in this section as well. (Utah)	No	Contractor explains where the ecological area determinations used in this section are obtained from. To develop new ecoregion determinations at this point would require a complete reevaluation of the soil distribution within the ecoregions and that is not necessary.
3.3.2	3-41	18-40	Six ecological areas are listed, but the subsequent discussion does not cover the same six ecological areas; i.e. North Central Highland is identified in the topic paragraph, but South Central Highland areas are discussed in paragraphs below. White Mountains are not identified as an ecological area, but are discussed. Range and High Desert ecological area important to Utah. (Utah)	Yes	First, please reconcile the six ecoregions listed in lines 18 – 20 of the discussion with those described in the six paragraphs below this discussion. Second, as for the part of comment related to Range and High Desert ecological area needing to be considered, if the Contractor's existing discussion

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					of ecological areas includes (under another name) the area that would otherwise fall within the commenters "Range and High Desert ecological area, then this comment can be discarded. If not, we need to talk to Utah about this comment to determine if the area should be included as an ecological area for purposes of soils identification.
3.3.2	3-41	2	Include Alfisols in this list. (Utah)	Yes	
3.3.2	3-41	2,and 6	Spelling correction, "Mollisols" (Utah)	No	Duplicative. Addressed in other comments
3.3.2	3-41	22	Editorial: add "are" between area and mostly. (Joseph)	Yes	
3.3.2	3-41	7	Mollisols predominant on high country plateaus and ridge tops. (Utah)	Yes	Unless the Contractor has knowledge that contradicts this comment, the sentence should be revised to say something like "Mollisols are the dominant soils of the plains and the high county plateaus and ridge tops."
3.3.2	3-41	7	Alfisols predominant in forested high country. (Utah)	Yes	Unless the Contractor has knowledge that contradicts this comment, a statement reflecting this should be added to this discussion.
Table 3.3-2	3-42		Relevance of this table is questionable. Tavaputs Plateau is missing a percentage. Total percentage should add up to 100%. (Utah)	Yes	Contractor should disregard comment about relevance. Contractor should provide the missing percentage. Contractor should disregard the total percentage part of comment as contractor explains that only soil associations that make up 2% or more are listed on the

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
					tables.
3.3.2.1	3-43	11	Where is Arizona? (McGregor)	Yes	In the paragraph that makes up lines 6 – 11, similar information to what is provided for the other 3 states is missing for Arizona. Please provide or explain to the reader why such information is not available.
3.3.2.1	3-43	12	Should not be using BLM productivity standards, typically the NRCS is the source for productivity standards. This paragraph is much too general when describing CO plateau soil productivity. Some of these areas are in forest areas and some are used for agricultural purposes, not all are low productivity soils. Revegetation does not take 20 years, if it did the bond period would not be 10 years. This paragraph does not reflect current reclamation practices. (McGregor)	Discuss with group	NRCS standards are much more appropriate than BLM. Please revise the text in light of this comment.
3.3.2.1	3-43	15	Disagree with this statement. Revegetation with native species can be achieved within the bond release period of 10 years. Establishment of cryptogams may require 20 years. (Utah)	Yes	While it appears as though the author is drawing from a BLM publication, the fact is that revegetation can be achieved in less than 20 years. Revise the statement to reflect that the revegetation bond release liability period in this area of the country is 10 years (30 CFR 816/817.116(b).
3.3.2.1	3-43	16	Primary reason for low reclamation potential is lack of precipitation during growing season. (Utah)	Yes	Include limited precipitation in the limiting factors for reclamation potential.
3.3.2	3-43	4	Editorial: remove the term "especially". (Joseph)	No	This comment seems to be writer's preference
3.3.2.1	3-43	6	This sentence makes it sound like that there is very little surface coal mining occurring. (McGregor)	No	This comment seems to be writer's preference
3.3.2.1	3-43	8	Does the 27,453 acres disturbed include the acres disturbed on Indian Lands in New Mexico? (McGregor)	Yes	If Indian Lands are included, Contractor should disregard comment. If not, please provide information for the entire state.
3.3.2.1	3-43	9	Any reclaimed acreage in New Mexico? (Utah)	Yes	Please provide reclaimed acres for N. Mexico or explain why this

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
					information is unavailable.
3.3.2.1	3-43	9-11	The source of these numbers should be included, but our records for overall total reclaimed and overall total disturbed acres are very similar to yours. (Utah)	Yes	Please provide source of acreage numbers for Utah just as you did for Colorado and N. Mexico.
3.3.3	3-44		We should be noting the tremendous impact to the soils resource in the MCR from agricultural practices. Years of poor farming practices and livestock mismanagement have devastated the soils of MCR. Significant soil erosion is still occurring on these agricultural areas that continue to clog our streams. Historical cotton production in the southern portion of the MCR has caused severe erosion to the point where native topsoil no longer exists and the subsoil is now the topsoil. All of these soils resources have been washed into streams and rivers and have significantly altered their habitat and physical characteristics. Continued farming in these areas will cause additional significant damage to streams and rivers. (Joseph)	Yes	It is almost intuitive that agricultural activities in many of the regions, especially the Illinois Basin, Gulf Coast, and other areas where agricultural activities are a significant land use, have historically had a significant adverse impact (i.e. soil loss and stream sedimentation). Please add a statement acknowledging that the existing soil resources in these areas have historically been adversely impacted by agricultural activities.
3.3.3 Gulf Region	3-44		A dominant soil associations table has been provided for all regions but the Gulf Coast Region. (Texas)	Yes	Please add the appropriate table of explain to the reader why such a table was not available.
3.3.3.1 Soils	3-44	20-24	This section would be better served by discussing that in general that soil substitution practices commonly used in the Gulf Region (Lignite coal mines) increase the productivity and capability of the soils. Reclamation potential is very high since we have the opportunity to remove and replace some of the highly eroded and weathered surface soils. As mentioned previously in Texas prime farmland soils have been created where none existed before. In LA and MS we are creating very productive soils for pine plantations that are superior to the premining soil materials. (Joseph)	Yes	As a part of the existing / affected environment discussion, it should be indicated that under certain circumstances, mine reclamation has improved the productivity of the existing soils
3.3.3	3-45	15-16	Editorial: correct the "area are" and ""wetlands.	Yes	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			drained." (Joseph)		
3.3.4	3-45	31	Editorial: insert "is" between "and" & "used". (Joseph)	Yes	
3.3.4.1	3-47	2	What is meant by "Soils in the Illinois Basin Coal Region are generally productive" Most of the Soils in the IL basin are the most productive soils in all of the US. (Joseph)	Yes	Please remove the word "generally" from line 2
3.3.4.1	3-47	2-5	Soils reclamation on coal mines in the IL Basin has been an outstanding success and the soils have great reclamation potential. Prime farmland reclamation was a concept when SMCRA was passed in 1977 and is now a well documented success. This should be noted. (Joseph)	Yes	This should be acknowledged and incorporated into either the existing environment discussion of the Illinois Basin and/or in the Chapter IV analysis of impacts associated with the no action alternative.
3.3.4	3-47	Table 3.3-3	Missing percentage of coal region in table for Varna-Elliott-Ashkum soil association. (Joseph)	Yes	
3.3.5.1	3-49	10	Disagree with the statement that reclamation potential is poor for this area. This statement is untrue. Reclamation does not take 20 years. Again this wording is coming from the BLM and does not truly reflect current reclamation practices on the mined areas. (McGregor)	Yes	See disposition for pg. 3-43, line 15
3.3.6.1	3-51	10	Need more information concerning soil productivity for the State of Washington. These soils are highly productive forest soils. (McGregor)	No	What Contractor says is sufficient for this document and consistent
3.3.7	3-51	12	Most of the time this area of the Mid-Continent region is commonly referred to as the "Interior" or "Western Interior" coal region. I'm not sure what "other" refers to? (Joseph)	No	Preference of the author
3.3.7	3-53	Table 3.3-6	Percentage of coal region is missing in the table for Bates Soil Series. This is a common soil series in the coal mining areas in KS, MO, and OK. (Joseph)	Yes	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.3	42	38-39	Change to: Care should be taken to salvage and properly maintain and store topsoil. (Virginia)	No	Commenters page reference is incorrect. Unable to determine where comment applies.

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	3-4 Geomorphology and Fluvial Processes
Contact Information	
Name	Kevin W. Garnett, Marcelo Calle, Stefanie Self, Peter Michael, Cooperating Agencies
Telephone Number	303 293 5035
Email	mcalle@osmre.gov
	Y=Yes) N=NO N(D) =No Duplicate

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.4.0.4	3-65	GEN	This section should contain a clear and concise discussion of the difference between non-mobile boulder/cobble headwater streams (e.g. Rosgen A-Aa+) and mobile meandering alluvial sand bed streams (e.g. Rosgen C). Include pictures. The section should also discuss the design considerations of ephemeral versus perennial streams and the importance of sediment transport in alluvial systems. Sediment transport needs to be discussed with equal detail as Sediment Control (e.g. riparian buffer). Include a discussion of challenges of stream restoration in high-gradient watersheds. Rosgen is only useful in low gradient watersheds. This issue will relate directly to the next Chapter on Effects to Resources, especially since stream restoration has not been successful in high gradient streams, yet. (FWS)	WR & FWS	Y	Apply changes per comment.
Table 3.4-7			This description needs edit. Suggest edit - Analog." Uses channel characteristics (e.g., cross section geometry, pattern and profile) developed from measured reference reaches. This approach assumes the reference reach is stable and necessarily and similar upstream conditions exist."	WR Yes	Y	Edit per comment.
Table 3.4-7			Suggest edit - Empirical "Uses equations (e.g. regression analysis, regional curves) to predict appropriate channel design geometry, typically on a regional basis. This approach assumes the reference reach is stable and similar upstream	WR Yes	Y	Edit per comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			conditions exist."			
Table 3.4-7			Suggest edit - Analytical. "Utilizes hydraulic 'process-based 'models describing channel flow, flow resistance and sediment transport to determine equilibrium conditions and appropriate channel design geometry."	WR Yes	Y	Edit per comment.
3.4	3-53	6	This section is mostly focused on streams and fluvial process. The title recommended should be Stream Systems and Fluvial Processes	WR	Y	Apply changes per comment.
3.4.0.1	3-53	8	Recommend bringing forward Stream Definition material to this section. The length material logically follows since in include delineation of ephemeral, intermittent and perennial streams.	WR	Y	Apply changes per comment.
3.4.0.1.1	3-55	3	This section does not belong here. Delete. Recommend placing this material in Stream Restoration. Title should not be Geomorphic Relationships. This material is strictly about channel forming discharge and hydraulic geometry. Suggest including in Alluvial Stream Design section.	WR	Y	Apply changes per comment.
3.4.0.4.1	3-65	10	Delete ~~Reconstruction~~. **Stream Restoration Techniques.** Reconstruction is not further discussed. Why use both? Is there a reason?	WR	Y	Apply changes per comment.
3.4.0.4.1	3-65	16	"...most commonly..." does not sound professional or appropriate. Is most commonly supported or referenced? Correct the language. Need to define Natural Channel Design in this section because the referenced Table 3.4-7 is titled Categorization Approaches to Natural Channel Design. Natural Stream Design is..... Geomorphic approach is.....The table supports but there needs to be better definition.	WR	Y	Apply changes per comment.
3.4.0.4.1	3-65	22	Last two sentences of this paragraph are unnecessary. Delete. What list? Why not all inclusive? If not all inclusive discuss why these techniques were discussed versus others that were not. Last sentence unnecessary. Delete.	WR	Y	Apply changes per comment.
3.4.0.4.1.1	3-67	31	How about Dunne and Leopold, (1978)?	WR	Y	Insert reference per comment.
	3-68	3	I do not believe that an analytical design approach is exclusively also known as the USACE approach. Suggest – "An an example of an analytical approach used to design	WR	Y	Apply changes per comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			stable stream channels is the applied in the USACE SAM computer program." Unless you use the Analytical Approach as a proper noun that has been defined. It's not explained why this is known as the "USACE" approach. Recommend additional clarity on the use of this nomenclature. (EPA)			
Table 3.4-9	3-68		Requirements column. Do not use '~~(estimated)~~'. Delete.	WR	Y	Apply changes per comment.
Table 3.4-9	3-68		Limitations column. Froude number <0.3	WR	Y	Apply changes per comment.
3.4.0.4.1.2.1	3-71	12	This material belongs in the regional specific section (Illinois Basin). Should not be included here. Delete from this section.	WR	Y	Apply changes per comment.
3.4.0.4.1.2.2	3-71	20	This material belongs in the regional specific section (Appalachian Basin). Should not be included here. Delete from this section.	WR	Y	Apply changes per comment.
3.4.0.4.1.2	3-71	2	This section should just be titled Natural Stream Design, delete the parenthetical (Rosgen Geomorphic Design). As discussed previously in document there are various methodologies to pursue what would be considered natural stream design. The term natural stream design is not registered or copyrighted by Rosgen, so I don't think saying natural stream design, also known as the Rosgen method is appropriate. Delete this reference. In this section include a discussion of what Natural Stream Design is ..... SEE REF- A NATURAL CHANNEL DESIGN APPROACH TO STREAM RESTORATION ON RECLAIMED SURFACE MINE LANDS William A. Harman, Suzanne J. Unger, and Ronald H. Fortney2 ....and then give the examples of specific approaches e.g, Rosgen Method, Two-Stage, Step Pool, etc. The material in the following sections can be contained under the greater section titled Natural Stream Design.	WR	Y	Apply changes per comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.4.0.4.1.2	3-71	3	Include this material (Rosgen Method) under the greater section 3.4.0.4.1.2 titled Natural Stream Design.	WR	Y	Apply changes per comment.
3.4.0.4.1.3	3-72	8	Include this material under the greater section 3.4.0.4.1.2 titled Natural Stream Design.	WR	Y	Apply changes per comment.
3.4.0.4.1.4	3-72	20	Include this material under the greater section 3.4.0.4.1.2 titled Natural Stream Design.	WR	Y	Apply changes per comment.
3.4.0.4.1.5	3-72	31	I recommend relocating this material (Treatment) to section 3.4.0.4.1. with restoration, creation, enhancement **and treatment** techniques.	WR	Y	Apply changes per comment.
3.4.0.4.1.6	3-73	1	Ecological **Stream** Functions	WR	Y	Apply changes per comment.
3.4.0.4.1.6	3-73	GEN	This section never defines what a riparian buffer zone is. Needs to be defined. • What is a riparian buffer zone?	WR	Y	Apply changes per comment.
3.4.0.4.1.6	3-73	GEN	The material in this section can be pre-faced/introduced with a discussion of the river continuum concept. VANNOTE, R.L.,G. W. MINSHALL, K. W. CUMMINS, J.R. SEDELL,AND~. E. GUSHING. 1980. The river continuum concept. Can. J. Fish. Aquat. Sci. 37: 130-137.	WR	Y	Apply changes per comment.
3.4.0.4.1.6	3-73	GEN	This entire section is focused primarily on the function of 'Riparian Buffer zones' in forested perennial streams in eastern U.S. and does not discuss the ecological function of ephemeral and intermittent stream in the arid southwest. Insert discussion/details. SEE REF - The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest. EPA/600/R-08/134 ARS/233046 November 2008 www.epa.gov	WR	Y	Apply changes per comment.
3.4.0.4.1.6	3-73	GEN	Since there is so much discussion focused on Riparian Buffer Zones I think Riparian Buffer Zone should be in title of Section. May need to create new sections, see comment above regarding function of western streams. EX. • Ecological Functions of Ephemeral Streams in West • Riparian Buffer Zones	WR	Y	Apply changes per comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.4.0.4.1.6.1	3-73	7	Probably can delete ~~surface water~~ and just use **runoff** without parenthesis.	WR	Y	Apply changes per comment.
3.4.0.4.1.6.1	3-73	15	The use of 'plain English' bullets as questions is not consistently applied within this section 3.4. No plain English bullets where used prior. **There needs to be consistency of format.**	WR	Y	This sections format written in the bulleted question style is inconsistent with the rest of the document. The document must be consistent in format and style. Check document for consistency.
3.4.0.5	3-80	13	Recommend **Stream Protection** Regulatory Environment	WR	Y	Apply changes per comment.
3.4.0.5	3-80	GEN	Recommend including a new section describing SMCRA regulatory environment titled section **3.4.0.6 Surface Mining Control and Reclamation Act** or **3.4.0.6 Office of Surface Mining.**	WR	Y	Apply changes per comment.
3.4.0.5.1	3-80	14	Recommend **U.S. Army Corps of Engineers** Compensatory Mitigation	WR	Y	Apply changes per comment.
3.4.1.2	3-85	35	(Table 3.4-**10**) not (Table 3.4-~~11)~~	WR	Y	Apply changes per comment.
3.4.2	3-91	GEN	This section is completely inadequate. The section maybe required 4 hours to compile and draft. **Not enough relevant material to comment.** These regional specific sections need to at a minimum discuss stream reconstruction techniques/methods utilized in the coal mining regions and a review of applicable programmatic overview/requirements. Many western states have published guidance regarding stream reconstruction. Regarding Ecological Function in western streams you should consider reviewing: • An Ecological Assessment of Western Streams and Rivers. Stoddard, J. L., D. V. Peck, S. G. Paulsen, J. Van Sickle, C. P. Hawkins, A. T. Herlihy, R. M. Hughes, P. R. Kaufmann, D. P. Larsen, G. Lomnicky, A. R. Olsen, S. A. Peterson, P. L. Ringold, and T. R. Whittier. 2005. An Ecological Assessment of Western Streams and Rivers. EPA 620/R-05/005;	WR	Y	Apply changes per comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			• Arid West Water Quality Research Project AQUATIC COMMUNITIES OF EPHEMERAL STREAM ECOSYSTEMS Funding provided by EPA Region IX under Assistance Agreement XP-9992607 directed by Pima County Wastewater Management Department prepared by URS Corporation, Albuquerque, New Mexico and Chadwick Ecological Consultants, Littleton, Colorado November 2006. Only stream characteristics typical to New Mexico are discussed. Include some research conducted on stream types in Utah and Colorado.			
3.4.5	3-96	GEN	This section is completely inadequate. The section maybe required 1 hour to compile and draft. **Not enough relevant material to comment.** These regional specific sections need to at a minimum discuss stream reconstruction techniques/methods utilized in the coal mining regions and a review of applicable programmatic overview/requirements. Many western states have published guidance regarding stream reconstruction. Regarding Ecological Function in western streams you should consider reviewing: • An Ecological Assessment of Western Streams and Rivers. Stoddard, J. L., D. V. Peck, S. G. Paulsen, J. Van Sickle, C. P. Hawkins, A. T. Herlihy, R. M. Hughes, P. R. Kaufmann, D. P. Larsen, G. Lomnicky, A. R. Olsen, S. A. Peterson, P. L. Ringold, and T. R. Whittier. 2005. An Ecological Assessment of Western Streams and Rivers. EPA 620/R-05/005;	WR	Y	Apply changes per comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			• Arid West Water Quality Research Project AQUATIC COMMUNITIES OF EPHEMERAL STREAM ECOSYSTEMS Funding provided by EPA Region IX under Assistance Agreement XP-9992607 directed by Pima County Wastewater Management Department prepared by URS Corporation, Albuquerque, New Mexico and Chadwick Ecological Consultants, Littleton, Colorado November 2006			
3.4.6	3-97	GEN	This section is completely inadequate. The section maybe required 1 hour to compile and draft. **Not enough relevant material to comment.** These regional specific sections need to at a minimum discuss stream reconstruction techniques/methods utilized in the coal mining regions and a review of applicable programmatic overview/requirements. Many western states have published guidance regarding stream reconstruction. Regarding Ecological Function in western streams you should consider reviewing: • An Ecological Assessment of Western Streams and Rivers. Stoddard, J. L., D. V. Peck, S. G. Paulsen, J. Van Sickle, C. P. Hawkins, A. T. Herlihy, R. M. Hughes, P. R. Kaufmann, D. P. Larsen, G. Lomnicky, A. R. Olsen, S. A. Peterson, P. L. Ringold, and T. R. Whittier. 2005. An Ecological Assessment of Western Streams and Rivers. EPA 620/R-05/005; • Arid West Water Quality Research Project AQUATIC COMMUNITIES OF EPHEMERAL STREAM ECOSYSTEMS Funding provided by EPA Region IX	WR	Y	Apply changes per comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			under Assistance Agreement XP-9992607 directed by Pima County Wastewater Management Department prepared by URS Corporation, Albuquerque, New Mexico and Chadwick Ecological Consultants, Littleton, Colorado November 2006			
3.4.6	3-97	GEN	Why is Washington State not included? For example, the Centralia Mine is a significant coal mine that has significant stream impact issues. There must be discussion regarding this mine.	WR	Y	Apply changes per comment.
3.4.1	3-85	8-9	WV, KY, and Southern Appalachian... please include data from Tennessee and Virginia. Rainfall and slopes can vary considerably in this region.	VA (BL)	Y	Please include discussion for TN and VA or discuss why these states have not been included.
3.4.1	3-85	8	A statement regarding the conditions of many coalfield streams being pre-SMCRA impacted is needed.	VA (BL)	Y	Include statement clarifying that the study does or does not include Pre-smcra impacted streams.
3.4.0.1	3-53	25	"The model accurately predicted over 90 percent of the perennial streams"	UT	Y	Apply changes per comment.
3.4.0.3.1.5	3-72	38	Typo... "large" woody material	UT	Y	Apply changes per comment.
3.4.0.5.1.6	3-84	25	e.g. forested wetland or low precipitation areas in the Western U.S.	UT	Y	Apply changes per comment.
3.4.0.5.1.6	3-84	26	Correct typo 'is" should be "in."	UT	Y	Apply changes per comment.
3.4.2	3-91	2 – 4	The description of the "Colorado Plateau" does not agree with the description of the "Colorado Plateau Coal Region" included in other sections of the document. Inconsistent introductory sections within the Chapter 2 sections dealing with the Colorado Plateau Coal Region are confusing for readers. The term "Colorado Plateau Coal Region" should be used exclusively in this Chapter to avoid confusion with the Colorado Plateau physiographic province. A map is necessary to show the relationship of the Navajo Canyonlands, Tavaputs Plateau, White Mountain-San Francisco Peaks-Mogollon Rim, South-Central Highlands, North-Central Highlands and Rocky Mountains, and Green River Basin relative to the coal resources of the Colorado Plateau Coal Region. These sub-classifications should be	UT	Y	Please provide detail about the significance of the geologic regions and or map that delineates the referenced geologic regions. Alternatively, if these regions (e.g. Navajo Canyonlands, Tavaputs Plateau, White Mountain-San Francisco Peaks-Mogollon Rim, South-Central Highlands, North-Central Highlands and Rocky Mountains, and Green River Basin) are not necessary to support the material contained in this section use the previously defined and mapped physiographic regions.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			referenced or explained – are these subdivisions based on geology, ecology, or hydrology?			
3.4.2.2?	3-94	5-6	Should this be Table 3.4-18? "Table **3.4-16** lists regional hydraulic geometry relationship curves for the Colorado Plateau Region."	UT	Y	Apply changes per comment.
3.4.0.1 Length (Perennial, Intermittent and Ephemeral)	3-54, 3-55	Table 3.4-2	The information provided in this table is unsubstantiated. This is also the case with many other tables and figures in Chapter 3.	TX	Y	Author will clearly define the methodology applied to generate the numbers contained in Table 3.4-2
3.4.0.3.1	3-63	18	Change "streams" to "stream's".	SOL (SB)	Y	Apply changes per comment.
3.4.0.3.1	3-65	8	Change "biological insight as well statistical power" to "biological insight as well *as* statistical power".	SOL (SB)	Y	Apply changes per comment.
3.4.0.4.1.2	3-67	15	Change "large" to "larger".	SOL (SB)	Y	Apply changes per comment.
3.4.0.1.2	3-67	32	Change "cannot determined" to "cannot *be* determined".	SOL (SB)	Y	Apply changes per comment.
3.4.0.2.1.4	3-58	38-39	Why is a Kentucky Department of Fish and Wildlife Resources person being used as a source for what US FWS does. Shouldn't this information be obtained directly from USFWS rather than an employee at a State agency?	MCR	Y	This personal communication must be properly cited. The USFWS must comment for USFWS policy.
3.4.0.2.2	3-60	4	Perennial streams have a streambed below the water table. Document says above.	MCR	Y	Apply changes per comment.
3.4.0.3.1	3-63		Include a reference to the COE's HGM and how and why it was developed.	FWS	Y	Apply changes per comment.
Table 3.4-10	3.83		The performance section of this table should also discuss the success criteria of 50% or greater	EPA	Y	Apply changes per comment.
3.4.0.4.1.6.1	3.74	30-37	A generalization is made between EPA's 100 ft buffer and that used in specific parts of the country. It should be noted that EPA sets the 100 ft. buffer based on the topographical variables. The Chesapeake Bay program caveats their system by saying "as long as sheet flow is maintained" and assumes that channelization will not occur which is not realistic. EPA 100 ft buffer is also designed for more than just trapping of sediment.	EPA	Y	Apply details per comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.4.0.4.1.2	3.67	23	"it" should be defined	EPA	Y	Apply changes per comment. 'It 'should be 'The Regime Method'
3.4.0.4.1.2	3-67	12-13	All bed and banks consist of transported alluvial material, the difference alluvial stream consist of new material to a greater extent. This sentence is misleading	EPA	Y	Provide clarification per comment.
3.4.0.1.1	3-56	28	"Services" should be "Service."	EPA	Y	Apply changes per comment.
3.4.0.1.2.3	3-58	3-34	This definition should be included in the "USEPA" heading, not the Corps heading. 40 CFR 230.3(e) is an EPA regulation, which the Corps does use.	EPA	Y	Apply changes per comment.
3.4.0.2.1.4	3-58	37-39	A personal communication with someone not at FWS should not be used to justify FWS's overall position on stream definitions.	EPA	Y	Apply changes per comment.
3.4.0.3.1	3-63	11-17	Recommend replacing the full text of this paragraph with the following to improve clarity and accuracy: *"The Clean Water Act (CWA) is the cornerstone for maintaining the chemical, physical, and biological integrity of the nation's waters. The CWA and implementing regulations have created national, state, and local programs for monitoring the condition of waters of the United States in order to better ensure their protection. In particular, the CWA requires States to establish designated uses for their waters (including streams), to monitor attainment of these uses, and to report the status of their waters to EPA.*	EPA	Y	Apply changes per comment.
3.4.0.301	3-63	18-22	Recommend replacing the full paragraph with the following: "To help inform the process of stream assessment, EPA has developed technical guidance for biological assessments of lotic (flowing) waters, and has developed protocols that are scjentifically valid and readily implementable (e.g., (Barbour et al. EPA 440/4-89/-001).	EPA	Y	Apply changes per comment.
3.4.0.3.1	3-63 to 3-64	28-40 (page 3-63) and 1-20 (page 3-64)	It is not clear what these sections add to the discussion. If this chapter is focused on defining the affected environment (streams), it is not clear why such an extensive monitoring discussion is necessary. Additionally, this section suffers from confusing terminology and only limited understanding of CWA protocols, so we recommend deleting the full section unless it is critical to the remainder of the chapter. Table 3.4-6 does a sufficient job of laying out important variables for consideration as part of stream assessment approaches.	EPA	Y	Apply changes per comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.4.0.4.1.2	3.71	2-11	The paragraph states that the Rosgen method is preferred by many states. There should also be a statement about this method applicability in arid and siemi-arid areas of the country, or that this method works well in the eastern part of the country.	EPA	Y	Apply changes per comment.
3.4. 0.4.1.6	3.73	1-5	This description on "ecological functions" could be read to mean that the use of this approach would restore all ecological functions of a stream. This is not the case. While function "is related in part to riparian buffer zones," it should be clear that the presence of a riparian buffer zone is only a minor aspect of ensuring stream function.	EPA	Y	See comment regarding the title of this section. Edit discussion per comment.
3,4,0.5.1.2	3-81	20	"Federal, 2008" is not a proper citation. The citation should be to a particular agency or entity. (This citation format shows up a few times.)	EPA	Y	Apply change per comment.
3.4.0.5.1.5	3-84	6	"Desire" should be "desired"	EPA	Y	Apply change per comment.
3.4.1.1	3-85	18	Should be "points of origin," not "point-of-origins."	EPA	Y	Apply change per comment.
3.4.0.4.1.2	3-67	19	Add "design" to the end, since that table talks about the design characteristics, not just stream characteristics	AR(SS)	Y	Change title of Table 3.4-8 to "**Design** Characteristics..." and apply change per comment.
3.4.0.4.1.2	3-67	32	Add "be" between cannot and determined	AR(SS)	Y	Apply change per comment.
3.4.0.1	3-53	25	Add "s" to stream at end of line	AR(SS)	Y	Apply changes per comment.
	3-54	9	Other Western ~~Region~~ Interior (based on next page's table)	AR(SS)	Y	Apply changes per comment.
3.4.0.4.1.2	3-67	15	Add an "r" to large	AR(SS)	Y	Apply changes per comment.
3.4.0.4.1.6			The use of questions as subtitles is fine, but shouldn't this or any other format be used consistently in the text?	AR(PM) Yes	Y	Duplicate General Plain language, question format.
3.4.0.1	3-53		Given the problems with identifying/measuring stream lengths in the first paragraph based on 2003-8 studies, how much credence does Leopold's 1964 work have?	AR(PM)	Y	This information is not consistent with theme of this section and lacks introductory discussion of stream order system. If this information will not be used for future analysis delete or insert into a the landform (geomorphology/morphometrics) section.
3.4.01.1	3-55	5	Replace "stream flow" with "stream discharge."	AR(PM)	Y	Apply changes per comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.4.0.1	3-56	11	In the equation, PBKF = aDAb, is "a" a coefficient and "b" an exponent? If yes, superscript "b".	AR(PM)	Y	Apply changes per comment.
3.4.0.1	3-56	14	Change the second use of "identification" to "discharge".	AR(PM)	Y	Apply changes per comment.
3.4.0.1	3-56	21-22	Change "As" to "Where", delete "may", and change "there may be" to "there is".	AR(PM)	Y	Apply changes per comment.
3.4.0.2.1.1	3-57	2-6	Delete "From" and "which" to make a complete sentence.	AR(PM)	Y	Apply changes per comment.
3.4.0.2.1.2	3-57	24	Add an "s" to "type".	AR(PM)	Y	Apply changes per comment.
3.4.0.3.1	3-63	3-5	Delete. The statement adds nothing.	AR(PM)	Y	Apply changes per comment.
3.4.0.3.1	3-63	7	What exactly does "directly and indirectly" mean?	AR(PM)	Y	Provide examples of direct and indirect impacts due to coal mining.
3.4.0.3.1	3-63	8	Re: "temporal", do you mean "temporary"?	AR(PM)	Y	Apply changes per comment.
3.4.0.3.1	3-63	24	Change "its" to "their".	AR(PM)	Y	Apply changes per comment.
3.4.0.3.1	3-63	39	Not clear what sort of "options" is talked about here.	AR(PM)	Y	Provide clarification per comment.
3.4.0.3.1	3-64	6	Not clear what the difference is between a "metric" and an "indicator attribute".	AR(PM)	Y	Define and provide examples of indicator attributes. "Metrics allows..."
3.4.0.4.1.7.7	3-79	40	Change section # to 3.4.0.4.1.6.7	AR(PM)	Y	Apply changes per comment.
3.4.0.1	3-55	1	This table entirely ignores ephemeral streams, which are a critical element of the stream network. A footnote should describe which category includes these streams, or whether they are ignored. ("Other" does not appear to include ephemeral streams if they are primarily "artificial channels.")	EPA	Y	Include a discussion in the methodology that clearly indicates ephemeral streams are not included and why they are not included.
3.4.1.1	3-85	21	Median information is unreliable; there is no Rule-of-Thumb for predicting stream reaches. Site specific information must always be included.	VA (BL)	N	This section presents the results with no implication.
3.4.1.1	3-86	2	This table should have a caveat that site specific conditions will be the final determination of stream type.	VA (BL)	N	This section presents the results with no implication.
3.4.1.3	3-86	9	A subsample of only 16 non-coalfield streams in different physiographic province would not provide enough data to generalize the drainage area of perennial streams.	VA (BL)	N	This section presents the results with no implication.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.4.1.3	3-86	5-9	The Rivenbark and Jackson, 2004 study states specifically in the "Summary and Implications" section that "The average discharge/drainage area relationship show[n] here only applies to the Blue Ridge physiographic region in the Southern Appalachian Mountains". The Hansen 2001 study is from the Chattooga River watershed also within the Blue Ridge physiographic province, which can have extremely high annual rainfall averages. These relationships are not appropriate for the Appalachian coalfields, which do not occur in the Blue Ridge physiographic province. The VADEQ Southwest Regional Office uses watersheds of approximately 1 mi^2 to identify perennial streams for some permitting purposes. None of these studies account for dewatering of watersheds as a result of abandoned underground mine works.	VA (BL)	N	This section is titled Southern Appalachia. The material contained in this section is specific to Southern Appalachia and not necessarily applicable to the entire Appalachian (Coalfield) Basin.
3.4.0.1	3-54	Table 3.4-2	'NHD' needs to be defined or identified (it is in Table 3.4-11 on p. 3-87).	UT	N	All acronyms will be defined prior to use and an acronym page will be supplied. No action necessary.
3.4.0.2.2	3-60	3-4	Double-check the source for this definition. "With regards to perennial streams, these systems were defined to have flow for most to all of the year with a streambed ~~above~~ below the water table."	UT	N	Duplicate comment. Recommended changes will be applied per similar comment.
3.4.0.3.1	3-63	26	What's an RBP? "...maintaining the basic concept of the RBP." OK, I see; it's defined in line 29 – should be up in line 26.	UT	N	No change necessary. All acronyms will be defined prior to use and an acronym page will be supplied.
3.4.2	3-91		Only stream characteristics typical to New Mexico are discussed. Include some research conducted on stream types in Utah and Colorado.	UT	N	Duplicate. This comment will be addressed via another comment.
3.4		n/a	Ephemeral streams were not included in this section.	Mychal Yellowman	N	Not enough detail in comment.
3.4.0.2.1.1	3-57	I-1	**United States Office of Surface Mining [ADD the rest of the name to the end: Reclamation and Enforcement]** **Does this discussion address the proposed changes to regulations which have changed OSM's definition of stream types?**	Karen Jass	N	OSM is the prescribed Acronym. Chapter 3 is solely a discussion of the affected environment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.4.0.2.1.4	3-58		Why is there a pers comm. With KY Department of Fish and Wildlife Resources regarding FWS practices & policies instead of someone with USFWS? Recommend talking to FWS directly.	FWS	N	Duplicate. This personal communication must be properly cited. The USFWS must comment for USFWS policy.
3.4.0.4	3-65		Include a discussion of challenges of stream restoration in high-gradient watersheds. Rosgen is only useful in low gradient watersheds. This issue will relate directly to the next Chapter on Effects to Resources, especially since stream restoration has not been successful in high gradient streams, yet.	FWS	N	Duplicate. Will be addressed.
3.4.04.1.2	all		There should be a statement about the applicability of all the methods and that not all methods work well in all parts of the country and are based on the topography and geology of the region.	EPA	N	Comment is addressed in Table 3.4-9 Assumptions and Requirements.
3.4.0.5.1	3-80	25	There should be a section that discusses success criteria for created wetlands and stream restoration as part of compensatory mitigation.	EPA	N	Ecological Performance Standards and Monitoring addresses this comment
3.4.0.1	3-53	11-28	Much of this discussion about predicting stream lengths appears extremely academic, confusing, and not helpful to the document. Recommend keeping the first sentence, deleting the rest, and moving directly to the next paragraph.	EPA	N	This information is used to support the methodology used.
3.4.0.1	3-54	13-15	Recommend deleting this table. There is no need to clarify the total stream length in the country if we're only focusing on the coal-producing regions of the country. This EIS should be focused only on the areas affected or potentially affected by the proposed action.	EPA	N	This comment has been addressed.
3.4.0.2.1.2	3-57	22-24	Recommend deleting this section. EPA primarily is concerned with "waters of the United States" pursuant to the Clean Water Act than with these specific stream classification methods. EPA's regulations on this topic are mistakenly ascribed to the Corps (see comment below). Additionally, it is not clear why this section needs such precise descriptions of these stream classifications. Why do slightly different definitions affect the analysis of the affected environment?	EPA	N	This comment has been addressed.
3.4.0.3.1	3-63	23-27	Recommend deleting this paragraph and making corresponding edits described below to the following paragraph.	EPA	N	This comment has been addressed.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.4.0.4.1	3-65	19-21	Recommend adding a sentence at the end of the existing sentence as follows: "However, a focus on restoring purely the physical components of affected streams may not fully restore the full suite of stream functions or the critical elements of existing stream biology."	EPA	N	This comment has been addressed in previous comment.
3.4.0.4.1.2	3-67	12-13	All bed and banks consist of transported alluvial material, the difference alluvial stream consist of new material to a greater extent. This sentence is misleading	EPA	N	This comment has been addressed in previous comment.
3.4.0.4.1.2	3.67	23	"it" should be defined	EPA	N	This comment has been addressed in previous comment.
3.4.0.4.1.2	3-68	3	It's not explained why this is known as the "USACE" approach. Recommend additional clarity on the use of this nomenclature.	EPA	N	This comment has been addressed in previous comment.
3.4.04.1.2	all		There should be a statement about the applicability of all the methods and that not all methods work well in all parts of the country and are based on the topography and geology of the region.	EPA	N	This comment has been addressed in previous comment.
Section 3.4.1 – 3.4.7			These sections are pretty straight-forward, with design stream formulas for the different regions. Again, seems like the previous section on Regulatory Environment was shoved in the middle of the geomorphic/stream design information.	AR(SS)	N	Duplicate, formatting comment
3.4.0.2.1	3-56	39-40	Full name of OSMRE, forgot the "Reclamation and Enforcement" bit	AR(SS)	N	All acronyms will be defined prior to use and an acronym page will be supplied. No action necessary. OSM is the prescribed Acronym.
3.4.0.3.1	3-63	12-14	Identify the source of the different "programs" (what's USACE, EPA, etc)	AR(SS)	N	The source is the CWA.
3.4.0.5.1.3			This section reads like contract specifications. The style does not belong here.	AR(PM)	N	Compensatory Mitigation (ACOE), level of detail.
3.4.0.5.1.5 and .6			These sections read like a guidance manual. This style also doesn't belong here.	AR(PM)	N	Compensatory Mitigation (ACOE), level of detail.
3.4.0.2.1			***Major point:*** Again, why are you concerned with how different agencies and sources are defining ephemeral, intermittent, and perennial stream reaches? Are the definitions parts of the affected environment? What influence do they have on the alternatives? Will different alternatives be favoring one set of definitions over another? I don't question the importance so much as to the lack of context, i.e. an explanation as to why this is important.	AR(PM) No	N	No changes

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.4.0.3			***Major point:*** Are bio-assessment methodologies parts of the affected environment? Will different alternatives modify the methodologies? Shouldn't this information be placed elsewhere in the EIS, like in an appendix?	AR(PM) No	N	Bio-methods are part of affected environment. No changes
3.4.0.4			***Major point:*** Is stream restoration part of the affected environment? Will different alternatives favor one approach or technique over another, or somehow change them? Why are we talking about this here? This looks like appendix material. Discussion of what approached/techniques have actually been applied and their degree of success in the coal mining regions might be helpful so long as you keep the discussion in the context of the affected environment.	AR(PM) No	N	Stream restoration methods are part of the affected environment. No changes.
3.4	3-53		Before you start with 3.4.0.1 you need to give an overview of what you're covering and what bearing it has on the alternatives that will be discussed in Chapter 4. Why talk about points of origin, stream lengths, ecological functions etc?	AR(PM)	N	This section is solely a discussion of affected environment without discussion of alternatives that will be covered in Chapter 4.
3.4.0.1	3-54		You can even apply the above question to Table 3.4-2. Also, is the acronym, NHD, spelled out somewhere?	AR(PM)	N	All acronyms will be defined prior to use and an acronym page will be supplied. No action necessary.
3.4.0.2.1.3	3-58	3-34	This looks like hastily inserted filler to me. If this is needed you need to explain why.	AR(PM)	N	Definition of WOTUS is necessary to understand the regulatory environement.
3.4.0.2.2	3-61	1	Bold and italicize the table title to be consistent.	AR(PM)	N	Formatting will be consistent in final document.
3.4.0.3.1	3-63	6	Re: "varying degrees of protection", are these laws and/or regulations?	AR(PM)	N	No change necessary.
3.4.0.3.1	3-63		Are TMDL, NPDES, and RBP spelled out anywhere?	AR(PM)	N	All acronyms will be defined prior to use and an acronym page will be supplied.
3.4.0.3.1	3-63	21	What are the "protocols" for?	AR(PM)	N	A Bioassessemnt protocol is implied by title of section and previous sentence content.
3.4.0.3.1	3-63	38	Do you really mean "variables" or "values"?	AR(PM)	N	No change necessary.
3.4.0.4.1	3-65	12	I can't tell what "(unless otherwise noted, adopted from Federal, 2008)" refers to. This notation is used in various places with the same degree of confusion.	AR(PM)	N	CITATION PROBELM This comment will be addressed in document reference and citation procedures.
3.4.0.5.1	3-80	15-16	ASACE and USEPA at least were spelled out previously.	AR(PM)	N	Document will be checked for consistency of acronyms.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.4.0.3	3-63	1	This material should not be included in section 3.4. Delete. Recommend including this material in Terrestrial and Aquatic Biology.	WR	N (D)	Bioassessment protocol discussion. Insert in Terrestrial & Aquatic Biology.
3.4.0.2	3-56	32	Replace this section with 3.4.0.1 Length material. Recommend changing title, ex. Stream Types and Length	WR	N (D)	Addressed in another comment.
3.4.2			No information is provided for Utah or Arizona in this section. Consider using the USGS-designated hydrology areas 56 and 57 to accurately portray resources in the areas potentially affected by coal mining since previous boundaries in the scope of this EIS provide inaccurate analysis of resources possibly affected by coal mining.	UT	N (D)	Duplicate, inadequate description of regional geomorphology and fluvial.
3.4.0.4.1.2	3.71	2-11	The paragraph states that the Rosgen method is preferred by many states. There should also be a statement about this method applicability in arid and siemi-arid areas of the country, or that this method works well in the eastern part of the country.	EPA	N (D)	More detail about application of Rosgen Method. What states are endorsing? Applicability in Arid/ephemeral systems.
Section 3.4.0.5	3-80 – 3-85		This section seems to be completely taken from the USACE's point of view – what they require currently, and there is a lot of language that does not apply to OSM's regulation or monitoring of impacts. For example: repeated references to the "district engineer". While OSM may choose to implement standards similar to the Corps, shouldn't our EIS refer to what we are going to do and require?	AR(SS)	N (D)	Affected environment should include discussion of existing OSM regulatory environment with respect to stream restoration requirements.
Entire Section 3.4.0.5	3-80 – 3-84		This section seems stuck in and not completely related to what is talked about elsewhere in this section (3.4). The fact that surface water is a separate section of this EIS chapter may mean some of this information is more appropriate there? While I understand that geomorphology and fluvial process are parts of a "watershed" approach to restoring areas, maybe this whole section needs to be moved to be closer to the surface water section so that it seems to be more of a comprehensive review of topics related to surface water, whether in streams, wetlands, flood plains or entire watersheds. Jumping from streams and design processes to the rest seems a bit disjointed.	AR(SS)	N (D)	Compensatory mitigation and existing regulatory environment (ACOE).
Entire sections 3.4.0.1-3.4.0.4	3-53 – 3-80		While this section gives an overall REVIEW of various papers and technical reports, nothing is really stated that is new. Since this is the only part of this document that I'm reviewing, it's hard to see how it fits into the entire EIS, but right now it	AR(SS)	N (D)	General comment regarding section content.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			just seems disjointed and a reference to the history of geomorphology, and not even a complete one, at that. If this is meant as an overview so that readers can understand terminology in a different section, I guess that's "ok".			
3.4 and 3.4.1			***Major point:*** This chapter is entirely focused on fluvial processes. Nothing is said about what is going on in the interfluves, e.g. the active mass wasting in Appalachia, particularly in the form of landslides. It's the mass-wasting processes in the interfluves that produce the material that the streams transport in the channels. The impact of those processes on streams cannot be overstated. Further, any modification to the requirements for excess spoil fill construction must take into account foundation stability and that stability is directly tied to how active mass wasting is occurring, and the presence and depth of colluvium. The chapter should present a comprehensive picture of the geomorphology of the coal fields and not just the fluvial processes. The focus on stream lengths and channel geometries in Appalachia in 3.4.1 gives even the fluvial aspects of the region short shrift, let alone inter-fluvial processes.	AR(PM) Duplicate	N (D)	Duplicate Discussion if fluvial centric and geomorphology (interfluv) light.
3.4.0.4.1			***Major point:*** A major omission here is work related to the interfluves, e.g. "landforming". For example, see Schor's and Gray's "Landforming: an Environmental Approach to Hillside Development, Mine Reclamation and Watershed Restoration" (2007). But again, it makes sense to me to reference the reclamation or restoration approach (or explain it in an appendix) and, in the context of the affected environment, talk about its use (or lack of) in the coal regions. That is part of the affected environment.	AR(PM) Yes	N (D)	Duplicate Discussion of fluvial centric and geomorphology (interfluv) light.
3.4.0.4.1.2			***Major point:*** Although the Rosgen empirical or "natural stream design" method is widely used, it is controversial. Other practitioners of stream restoration promote a more "analytical" or "functional" approach. If the practice of stream restoration is to have any bearing on the alternatives, all optional approaches should be addressed.	AR(PM) Yes	N (D)	Duplicate Discussion of Stream restoration techniques beyond Rosgen Method.
3.4.0.4.1.6			A nice review of the drivers of stream ecology but it doesn't seem to fit under 3.4.0.4, "Stream Restoration". Also, the section is a general overview, i.e. it doesn't appear focused on	AR(PM)	N (D)	Organization of Ecology/function. Light discussion of Ecology specific to regions.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			the coal regions.			
3.4.1			***Major point:*** We finally address what is going on in the specific coal regions, but the discussion is limited just to streams; their ephemeral, intermittent, and perennial lengths; and their in-channel geometries. Absent are natural landforms of the interfluves; the historic effect of mining and other disturbances on the interfluve geomorphology (and streams); and the natural and disturbed interrelationship among the interfluves, stream channels, and ecological systems. If there is little information on these things, say so, but keep the focus where it belongs.	AR(PM)	N (D)	Duplicate Discussion is fluvial centric and geomorphology (interfluv) light.
General comment			The serious time crunch clearly affected the quality of this draft. There are different writing styles. I have the sense that pieces were written or inserted in a hurry without adequate opportunity for internal quality control. I have only listed a few of the smaller, mainly editorial issues I've noticed partly because I'm contending with my own time limitation. More importantly, the larger problems I see overwrite most of them.	AR(PM)	N (D)	General Format and style inconsistent.
3.4.0.3.1	3-64 – 65		***Major point:*** I don't think this section is much help. It should summarize about the existence of the protocols and indices in much plainer English and either reference the original literature that explains them or stick them in an appendix.	AR(PM)	N (D)	Bioassessment protocol discussion. Insert in Terrestrial & Aquatic Biology.
3.4.0.4.1	3-65	GEN	This section should discuss or detail stream reconstruction in terms of both FORM and FUNCTION. I recommend clearly identifying FORM in title. This would be logically followed with the ECOLOGICAL FUNCTION section and it supports language of proposed action.	WR	N	

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	EIS Chapter 3, Section 5 - Topography
Contact Information	
Name	Michael Richmond , David Lane (AR), Marcelo Calle, Mychal Yellowman, Karen Jass (WR), Kevin Garnett (MCR)
Telephone Number	303 293 5035
Email	mcalle@osmre.gov
	Y=Yes) N=NO N(D) =No Duplicate

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.5.1.3.4	28		Who did you ask for this information in WV? I find it hard to believe that information was available for Kentucky, but not for Pennsylvania, Maryland, Ohio, West Virginia, Virginia, and Tennessee. This not accurate. Information is available for more states than Kentucky. **"Trends in Number and Size of Fills** Information for trends and size of fills was only available for Kentucky." AND ***Figure 3.5-3 (page 3-7)*** For the purpose of this EIS & the contract written to have it written, why weren't other states contacted to determine this information. This is insufficient research to be the basis of an EIS!	WV (LH)	Y	Need to include information on fills for WV and other states or discussion of why information was not available. SEE GAO Report 2009
3.5.1	3-4 to 11	n/a	Focuses on KY and WV, which comprise only part of the Appalachian Basin. Regional data is available for each state through GAO report in 2009.	VA (BL)	Y	SEE GAO Report 2009 for more detail.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.5.0	3-1	18	The term "closely grading" is not applicable. Once the coal is removed, the mine operator returns the spoil to the mined out area for reclamation, grading it to resemble the pre-mining topography. This process is known as returning the site to its "approximate original contour" (AOC).	Yes	Y	Make changes/edit per comment
3.5.0	3-1	14	The rock is fractured by drilling and blasting, and is subsequently removed. I suggest replacing "drilling or blasting as it is removed" with "drilling and blasting to facilitate excavation." The current statement says that there is a choice in fracturing the overburden, either drilling or blasting.	Yes	Y	Make changes/edit per comment
3.5.0	3-1	16-17	This increase in volume is referred to as "swell", and the percentage of volume increase is referred to as the "swell factor". The swell factor is a quantitative mathematical representation of the gain in volume commonly known as swell. I suggest revising this sentence to read: "This increase in volume is known as swell." The fractured rock, referred to as spoil, incorporates air filled voids, increasing its overall volume, relative to its solid, pre-blast volume.	Yes	Y	Make changes/edit per comment
3.5.0	3-1 thru 3-3	GEN	This section is completely inadequate. 1. This is not a good definition of AOC. There needs to be more discussion about Approximate Original Contour. How it is defined and interpreted. This would also include discussion of all variances. 2. There needs to be discussion about topography and topographic elements beyond elevation, relief, valley fills and impoundments. Mined areas in the west are large and require complete watershed/topographic reconstruction. Need to discuss how topography is intimately associated with how a watershed functions. 3. There needs to be discussion of how geology and	Yes	Y	Apply changes per comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			climate influences regional topographic variation and form. 4. The proposed action with respect to AOC includes a significant change to how AOC will be evaluated. The proposed actions will require quantitative landform measurements. In support of this later discussion (chapter 4) there will need to be some pre-discussion about how landforms are quantitatively described (i.e., morphometry, morphometrics, watershed measurements, geomorphology). The proposed action also includes requirements with respect to digital terrain models. How is this element going to be evaluated? 5. How is topographic reconstruction approached? What are or is the prevailing methodology? Need to discuss 'traditional' approaches and more progressive approaches such as 'landforming'. Suggest REF – Landforming: An Environmental Approach to Hillside Development, Mine Reclamation and Watershed Restoration (SCHOR and Gray, 2007)			
	3-2	13	Here you say in some cases there is not enough material to achieve AOC and then in section 3.5.5.3.2 it states there are no AOC variances. Correct this inconsistency.	Yes	Y	
3.5.0	3-2	17	States AR is responsible for 99.4% but Table 3.5-1 states only fills occur in AR. Should AR be 100%?	Yes	Y	Apply changes per comment.
3.5.0	3-2	15	I suggest replacing "excess spoil fill" with "excess spoil disposal area". I suggest replacing "excess spoil fill" with "excess spoil disposal area" and deleting ""in a previously mined area or".		Y	Apply changes per comment.
3.5.0	3-2	12	I suggest replacing "may" with "must."		Y	Apply changes per comment.
3.5.0	3-2	13	Include: Virginia encourages industry to use AML no-cost agreements to reclaim abandoned mined lands. These agreements allow mining companies to use excess spoil from	VA (BL)	Y	Include the addition of these details in Old Mine Benches section.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			permitted mine operations to eliminate abandoned mine highwalls that normally would not be reclaimed. In addition to reclaiming abandoned mine land highwalls, the practice also minimizes the development of new valley and hollow fills and reduces impacts to coalfield streams.			
3.5.0	3-3	3-15	This paragraph lists 3 different types of waste disposal structures . Are all 3 types of structures included in Table 3.5-2? Does Table 3.5-2 refer only to current, active operations, or also to historic, and potential future, use of coal waste disposal impoundments? The Other Western Interior region has definite historic use of Coal Waste Disposal Impoundments. IA, MO, KS, AR, and OK all have historic use of these structures under SMCRA (both slurry impoundments and coarse refuse piles). I believe AR may have one active, and OK at least has one that is currently in reclamation and may have other active sites that I am not aware of. MO, KS and IA have all had recent bond forfeiture reclamation projects on slurry impoundments and gob (coarse refuse) piles.	MCR (KG)	Y	Apply changes per comment.
3.5.0	3-3	TABLE 3.5-2	York Canyon Underground Mine had a coal slurry impoundment and two course refuse disposal areas, all of which have been reclaimed and released through Phase II. This mine is located in the Raton Basin of NM, not in the San Juan Basin. The latter basin is being emphasized for the EIS.	NM	Y	Apply changes per comment.
3.5	3-3	***Table 3.5-1***	This table is incorrect. Both mines in WA state have excess spoil storage in areas that were NOT previously mined.	Karen Jass	Y	Apply changes per comment.
3.5.0	3-3	***Table 3.5-2***	*This table is incorrect. The NW region has 1 impounding structure.*	Karen Jass	Y	Apply changes per comment.
3.5.1	3-4	9	Figure 3.5-2 does not show the entire Appalachian Coal Basin. See Section 3.2.1, page 3-4, lines 4-5,Figure 3.2-3 for an accurate representation of the Appalachian Coal Basin.		Y	Apply changes per comment.
3.5.1.2	3-4	15-16	Steep slope topography exists elsewhere but, for the most part, mines in steep slope areas are located in eastern Kentucky, western Virginia, and southern West Virginia. Steep-slope topography (greater than 20°) exists in Appalachian States other than Kentucky, West Virginia, and Virginia. Page3-6, line 35 describe the geology of the northern Tennessee coal fields as steep-slope areas of the Cumberland		Y	Several comments regarding this discussion. This discussion needs better resolution with respect steep slope regions. Apply changes per comment.

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			Mountains. Western KY is definitely non-steep slope. Contradictory from the previous paragraph 3.5.1.1 where Northern WV is lumped in with PA and OH. So shouldn't it be here?			
3.5.1.2	3-4	17-20	Valley fills alter, rather than augment the previously existing topography. If the benches being described are the drainage benches on fill slopes, then, yes, they do create different drainage paths. To say they create less steep slopes might be misleading. The face of an excess spoil fill cannot physically be less steep than the underlying natural ground surface. Backfilled benches do not result from excess spoil. Excess spoil fills result from the fact that, in some cases, it is not possible to put all spoil on the mined area in a stable manner. They are larger than would otherwise be the case, and some excess spoil fills exist entirely because it is cheaper to dump fill in a valley than it is to move it, in some cases up slope, into the backfill area.		Y	This material is overly simplistic, generalized, poorly described and lacks supporting information. Please provide more substantial discussion of reclamation methods/techniques and challenges applicable to steep slope areas. Include images.
3.5.1.2	3-5	7-13	Contour mining is typically employed when the operator only has rights to the coal along the outcrop, or cost of removing the overburden and recovering the coal over the entire seam exceeds the market value of the coal, with profit and all operating costs factored in. When contour mining is considered, the possibility of auger or highwall mining is also considered if the operator has rights to the rest of the coal. Issues with mineral rights would have to be resolved for <u>any</u> mining to occur. Issues with surface rights might force the use of underground mining. Also, the "sufficient contiguous coal reserves to warrant substantial capital investment" would be better stated as some form of, "the benefit outweighs the cost." I think someone needs to educate the authors on the definition mountaintop removal mining. Again, mountaintop or area mining is considered when the market value of the coal exceeds the cost of removing the overburden and recovering the coal, with profit and all costs factored in. It is important to		Y	These comments all address the lack of detail and understanding of the information presented in this section. The section is titled Topography and choice of mining yet the discussion is very limited (light) on discussion of this subject. Most of the discussion is about economics and resource rights/access. This type of discussion is more appropriate to Mining methods and mineral resources. There needs to be a better discussion of topography and mining methods.

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			understand that the value of the coal includes the cumulative value of all seams that can be recovered, many of which are too thin to be mined by other methods. (the ability to mine multiple, otherwise inaccessible seams is one of the most positive attributes of mountaintop mining) It is seldom discussed. This discussion is filled with inaccuracies and should be re-written based on accurate Appalachian mining information			
3.5.1.3.1	3-5	28	Above the writer references Kentucky policy only, but here references west Virginia policy. Perhaps lines 25-27 should also mention west Virginia policy. West Virginia AOC policy was established years prior to Kentucky's policy.		Y	Apply changes per comment. Discuss WV policy on AOC.
3.5.1.3.1	3-5	21	Replace "mining bench" with "mined out area".		Y	Apply changes per comment.
3.5.1.3.1	3-5	20	. . . is placed in excess spoil fills, outside the mined area.		Y	Apply changes per comment.
3.5.1.3.1	3-5	19	Bulking, or swell – a bulking or swell "factor" is an estimate of the magnitude of this phenomenon.		Y	Apply changes per comment.
3.5.1.3.1	3-5	22-23	The traditional excess spoil fill configuration involves filling the upper portions of a valley, finishing with a flat deck and a sloped face, designed to provide adequate stability. Exceptions to this would be; spoil placed on pre-existing benches and side-hill fills, most commonly placed on natural benches. Only spoil placed on pre-existing benches results in structures resembling the natural pre-mining topography.		Y	Fills are not subject to AOC nor can they be expected to resemble the pre-mine topography. Delete discussion of pre-mine topography as related to fills. Suggest the commenter's language.
3.5.1.3.2	3-5	33	Why "in West Virginia"?		Y	AOC variances are not specific to WV. Delete parenthetical (WV).
3.5.1.3.2	3-5	34-35	"equal or better post mining land use"		Y	Apply changes per comment.
3.5.1.3.2	3-5	36-37	AOC requirements apply specifically to backfill of mined areas. By definition, excess spoil fills are outside the mined area. Obviously, excess spoil fills represent departures from original topography. Valleyfills are by definition located in areas outside the mined out area and therefore are not subject to AOC requirements. AOC applies only to backfilling and grading the mined out		Y	There should be no suggestion that AOC or AOC variances apply to fills. Fills are not part of the mined area and thus are not subject to AOC. This clarification must not be confused in the language. Delete or revise last sentence.

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			area.			
3.5.1.2	3-5	8-13	'Is' or 'Are'? 'Sufficient" or 'sufficiently'? "Mountain-top removal or Area mining methods would be considered in both steep slope and median sloped areas if the coal seam depth is economical and there ~~is~~ are sufficient ~~sufficiently~~ contiguous coal reserves to warrant substantial capital investment. Underground mining methods would be considered when surface mining is uneconomical due to excessive coal seam depth, if property (mineral) rights have issues, and there are sufficient contiguous coal reserves to warrant substantial capital investment."	UT	Y	Apply changes per comment. What are 'median sloped areas'??
3.5.1.3.1	3-5	17-18	"SMCRA regulations require that all highwalls will be ~~are~~ eliminated and that spoil material will be placed on the mine bench in a configuration that adheres to AOC... "	UT	Y	Apply changes per comment.
3.5.1.3.1	3-5	19	Include: *A lower or higher SF may be specified under certain conditions* at the end of sentence ..of 1.3.	VA (BL)	Y	Insert '**minimum** of 1.3 ..." A SF less than 1.3 is not allowable.
3.5.1.3.1	3-5	Par 5	"Kentucky had a policy that 80% of the spoil had to be placed on the mine area." Does this mean in the mined out area or just within the permitted area?	Karen Jass	Y	"...80% of the spoil had to be placed on the **mined** area."
3.5.1.3.3	3-6	3-26	This section is filled with inaccuracies. It should be re-written to correctly reflect the requirements given by §816/817.71 through §816/817.74 Should we not list all types allowed under SMCRA here? Should we not then describe defining characteristics of each? Separate construction of an underdrain is not considered necessary. Not all agree. Dumping occurs all along the edge of the deck, not just at the center. Degradation of stability of the existing fill? On pre-existing benches? It appears they are discussing placement of spoil on drainage benches of existing fills. Surely I am misunderstanding here.		Y	Significant comment has been provided for this section. Review comments and re-write this section.

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			Divergence? Such placement represents re-establishment of the original surface drainage pattern. Pre-Existing Mine Benches – The readers may not be familiar with terminology. It is important that they become acquainted to avoid subsequent confusion.			
3.5.1.3.3.4	3-6	28	Where is 3.5.1.3.3.3?		Y	Apply changes per comment.
3.5.1.3.3.1	3-6	15	Should read "...to a **ratio** of no ..." ...the face of the fill **is (may be)** terraced to an overall slope of a **ration (ratio)... (VA_BL)**	MCR (KG)	Y	Apply changes per comment.
3.5.1.3.3.2	3-6	24-26	Sentence revision needed: suggestion. "With proper placement and compaction of excess spoil material from mining operations, [comma] the old mine benches could be restored to AOC and ~~also minimize~~ the number and size of valley fills minimized. ~~to accommodate the excess spoil material from mining operations~~"	UT	Y	Apply changes per comment.
3.5.1.3.4	3-7	1-2	Figure 3.5-3 Graph should be re-done with separate Y axes for total number (on left) and average footprint in acres (on right) due to the large discrepancy in values. The footprint graphs are worthless in this layout as the total number bars dwarf them.	MCR (KG)	Y	Revise the graph per comment.
3.5.1.3.3.5	3-8	26	This material is termed "additional backfill" rather than excess spoil, by virtue of its being placed within the perimeter of the mined area. We should not lose track of the fact that it is being placed above the pre-mine surface and, in some contexts, should be considered excess spoil.		Y	Delete parenthetical, **(additional backfill)**.
3.5.1.3.3.5	3-8	6	We do not need, or want, to say (valley fills). There are other types of excess spoil fills.		Y	Delete parenthetical, **(valley fills)**.
3.5.1.3.3.5	3-8	38-39	We cannot replicate pre-mining topography and drainage of excess disposal areas. We can, and should, minimize the impact, but the more you want to make it look like it was before, the more you have to spread the spoil out, impacting additional area. The key should be balance; refine the excess spoil fill configuration till benefit vs cost (in environmental terms) equalizes.		Y	Delete this last sentence. Landforming has never been described or defined, nor is it it part of the FPOP policy.
3.5.1.3.3.5	3-8	30-37	The logic behind this paragraph eludes me. The concept of moving the fills upstream, magically converting excess spoil to		Y	This is information is questionable since this section should only be describing the

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			backfill was discussed in the previous paragraph. I am curious, however, as to how we can reduce impacts by placing additional spoil on the decks of fills to decrease their overall impact. Not if the additional fill is coming from the backfill area. This may be true if we are eliminating some fills by spreading their material out over several other fills. If that is what is meant, maybe it should be said.			affected environment and not elements of the proposed action. This discussion is more appropriate for Chapter 4. Suggest removing this discussion since it is not specifically prescribed by the FPOP.
3.5.1.3.3.5	3-8	7-15	The West Virginia AOC+ policy also does not apply to mining in non-steep slope areas.		Y	Recommend adding language per comment.
3.5.1.3.5	3-8	Par 1	"limiting the amount of excess spoil placed in excess spoil structures (valley fills [ADD: and other out of pit fill areas]).' Not all fill goes into valley fills	Karen Jass	Y	Apply changes per comment.
3.5	3-1 through 3-11		These sections, 3.5 and 3.5.1, contain many inaccuracies relating to mining practices and departures from regulatory terminology. The writers seem to have little knowledge of Appalachian mining practices and the Statutory and Regulatory requirements. This should be rewritten by professional engineers, geologists and regulatory experts with a working knowledge of the subject matter. This is a DOI/OSM document and in its present form suggests that the Department and Agency lack regulatory and mining knowledge. This may also be the case for the other sections of the document.		Y	
3.5.1.3.3.6	3-9	20-22	A stability analysis performed and certified by a registered professional engineer experienced in construction of mine spoil fills. The analysis must include the engineer's prescribed shear strength and pore water pressure parameter values for all materials represented in the analysis, and a narrative of his rationale for selection of each.		Y	Apply changes per comment.
3.5.1.4	3-9	34	Coal Mine Waste Disposal This section should be titled "Coal Mine Waste" to be consistent with §701.5 and §816/817.81 Replace "Coal waste disposal impoundments' with "Coal mine		Y	Apply changes per comment.

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			waste impounding structures to be consistent with §816/817.84 Coal mine waste is not spoil. This section should be titled "Coal Mine Waste Disposal Methods" rather than "Spoil Disposal Methods". Subtitle should read Coal Waste Disposal Methods.			
3.5.1.4.1	3-9	41	This is not accurate. Coal mine waste impounding structures often have discharges.		Y	Apply changes per comment. Include permitted discharges.
3.5.1.4.2	3-10	13	Website cited is an inappropriate source. State permitting agency would be a preferred source. Include sentence "Virginia currently has 12 active impoundments." Include Virginia in Figure 3.5-4 *Number and Size of Coal Waste Disposal Impoundments*	VA (BL)	Y	Apply changes per comment.
3.5.2.2	3-12	17	Does the underground mined coal require processing? Coal mine waste disposal is not discussed, so I am assuming that is the case. Am I correct in this?		Y	Insert discussion of underground coal mine waste disposal practice.
3.5.2.2	3-12	GEN	This section is completely inadequate. The section maybe required 10 minutes to compile and draft. **Not enough relevant material to comment.** The last sentence of this page is a gross generalization that is unsupported. How can you say 'topography has been affected very little' just because there are no fills? Conditioning your statement with 'overall topography of region' is not acceptable to explain the lack of detail. You have to describe IN DETAILS how topography is affected by mining. Material is completely inadequate. Mining Bench? Do you mean mined area or mine pit?		Y	Apply changes per comment.
3.5	3-12	n/a	In Figure 3.5-5, Black Mesa was left off	Mychal Yellow	Y	Arizona Mining needs to be included.
3.5.2.3	3-13	GEN	This section reduces the description of AOC to extend of fills. This is completely inadequate and demonstrates no familiarity		Y	Apply changes per comment.

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			with the concept of AOC because AOC does not include excess spoil. **Not enough relevant material to comment.** For example, New Mexico is responsible for some of the best examples of 'landforming' or 'geomorphic reclamation' in the west. The approach is not limited to channel reconstruction or natural channel design; it can be applied on a topographic watershed or drainage basin scale. Need to describe in detail as available how regulatory programs evaluate AOC (rules, guidelines, policy, etc.).			
3.5.2.3.3	3-13	19-20	What about Utah?		Y	Apply changes per comment.
3.5.2.3.3	3-13	19	See comment above. It would be more accurate to say that the San Juan Basin has no coal slurry impoundments, not New Mexico. Or that New Mexico has no active coal slurry impoundments.	NM	Y	This section needs to provide greater detail.
3.5.2.3.3	3-13	n/a	Are slurry impoundments the only form of Coal Waste disposal structures?	Mychal Yellow	Y	Please discuss all forms of coal mine waste disposal.
3.5.4.3.2	3-16	25	In the previous paragraph, the authors indicate variances are sometimes requested to reclaim final cuts to impoundments.		Y	This is not an accurate statement. Delete.
3.5.4.4	3-16	27-31	So we have 46 slurry impoundments within 500 feet of underground works. Is that all we are going to say about them? How many impoundments total? No capacities available? Are there no active impoundments in Indiana? There have been historically.		Y	This section is inadequate in content. This section should be carefully reviewed by ECSI and Morgan Worldwide to ensure consistency with coal mining industry and regulatory program terminology and practice.
3.5.5.1	3-17	3-9	Again, I would like more detail. I have difficulty thinking of areas with local relief of as much as 300 feet as plains. I imagine there is some variation within each of these areas. Can they be subdivided with regard to topography?		Y	
3.5.5.2	3-17	GEN	This section is completely inadequate. The section maybe required 10 minutes to compile and draft. **Not enough relevant material to comment.** The last sentence of this page is a gross generalization that is unsupported. How can you say 'topography has been affected very little' just because there are no fills? Conditioning your statement with 'overall topography of region' is not acceptable		Y	Apply changes per comment.

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			to explain the lack of detail. You have to describe IN DETAILS how topography is affected by mining. Material is completely inadequate. Mining Bench? Do you mean mined area or mine pit?			
3.5.5.1	3-17	***Figure 3.5-8***	***Northern Rocky Mountains and Great Plains Coal Reserves and Topography. Because there are 3 different distinct areas as stated in this section, shouldn't these 3 areas be labeled on the drawing –esp. for those outside of the area who are unfamiliar w/ there areas/states are located?***	Karen Jass	Y	Apply changes per comment.
3.5.5.3	3-18	GEN	This section reduces the description of AOC to extend of fills. This is completely inadequate and demonstrates no familiarity with the concept of AOC because AOC does not include excess spoil. **Not enough relevant material to comment.** Need to describe in detail as available how regulatory programs evaluate AOC (rules, guidelines, policy, etc.).		Y	Apply changes per comment.
3.5.5.3.2	3-18	GEN	In the previous section you just described how conditions support AOC variance. Correct this inconsistency. Need to read or have someone else read the draft before submitting.		Y	Apply changes per comment.
3.5.5.4	3-18	GEN	This statement needs to be more clearly explained. The wording is also not consistent across sections (see 3.5.6.4)		Y	Apply changes per comment.
3.5.6.1	3-18	20	If the Washington and Oregon coal region is a contiguous area running down the west coast of Washington, ending in northwestern Oregon, why does the included map show isolated regions from Washington to Southern California?		Y	Apply changes per comment.
3.5.6.1	3-19	GEN	There should be note of mining in Washington (Centralia Mine).		Y	Apply changes per comment.
3.5.6.2	3-19	GEN	Recommend not using 'mountain-top' operation. Should not be confused with Mountaintop Removal (MTR). MTR is a variance from AOC.		Y	Apply changes per comment.
3.5.6.3.1	3-19	GEN	This section reduces the description of AOC to extend of fills. This is completely inadequate and demonstrates no familiarity with the concept of AOC because AOC does not include		Y	Apply changes per comment.

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			excess spoil. **Not enough relevant material to comment.** Need to describe in detail as available how regulatory programs evaluate AOC (rules, guidelines, policy, etc.).			
3.5.6	3-19	Figure 3.5-9	*The left figure should include an arrow showing the active mining area near Healy.*	Karen Jass	Y	Apply changes per comment.
3.5.7.1	3-20	3-5	Again, a detailed description of the topography and variations thereof would be helpful. For example, I would expect the topography of central Kansas to be significantly fifferent from west central Arkansas. Why does the map include regions in central and western Texas, while there is no description of these in the text. The map also includes eastern Nebraska, and a large section of Iowa with no description in the text. Was the only source of information from Kansas a single phone interview with Mr. Foshag? That appears to be the case. Was the only source of information from Arkansas a single phone interview with Mr. Stephens? That appears to be the case. Was the only source of information from Oklahoma a single phone interview with Mr. Shults? That appears to be the case. What were the sources of information for Missouri, and other states? None were cited.		Y	Apply changes per comment.
3.5.7.2	3-21	2-6	There is no description of the mining in each of the states.		Y	Apply changes per comment.
3.5.7.4	3-21	16-22	The information in this paragraph contradicts the table on page 3-3. MO and IA (and I believe KS) have had recent bond forfeiture reclamation projects that included slurry impoundments and coarse refuse piles.	MCR (KG)	Y	Apply changes per comment.
			Are KY statistics for permits issued per year or fills constructed in that year?	WV (LH)	Y	Indicate if the statistic is year permitted or year constructed.
3.5.2.2			Add the following: Surface facilities for most underground coal mines in Utah are located in deeply incised canyons.	UT	Y	Apply changes per comment.
3.5.2.3.1			Add the following: In Utah, restoration to AOC is a requirement for both surface and underground coal mines.	UT	Y	Apply changes per comment.

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			For underground mines, restoration of AOC typically includes backfilling to eliminate highwalls developed at surface entries.			
3.5.2.3.3			Add the following: Several coal slurry impoundments have been developed at underground mines in Utah. These slurry cells are being re-mined as waste fuel.	UT	Y	Apply changes per comment.
3.5.5.3.2			AOC variances. Wyoming has thin overburden variances!	Mychal Yellow	Y	Apply changes per comment.
3.5.0	3-1	12-13	Since we are including an underground mining rule, should we not also discuss the effects of underground mining on topography. Though more subtle, they are not insignificant.		Y	Include discussion of how AOC applies to underground mining operations.
3.5.0	3-3	8	I suggest replacing " waste disposal structures" with "coal mine waste disposal structures". I suggest replacing "coal waste" with "coal mine waste". I suggest replacing "coal waste disposal impoundment" with "coal mine waste impounding structure".		Y	Apply changes per comment.
3.5.1.2	3-5	1-2	Non-steep slope coal mining areas do not exhibit more classic AOC features (what are classic AOC features) By definition, AOC is site specific. Non steep slope topography simply imposes fewer restrictions on the operators. More, in most cases all, of the spoil can be placed on the mined area in a stable manner. This is why they do not typically require excess spoil fills. Due to swell, the final ground surface is typically above the original ground surface. In steep slope areas, by placing excess spoil in fills, it is theoretically possible to exactly match pre-mining topography in the backfill area; however, it is cheaper to move as much of the material to the excess spoil fills as regulations will allow. In steeper areas, drainage benches on backfill and excess spoil fill slopes are necessary to control erosion as vegetation is being established. These benches alter drainage patterns, and must be planned well to minimize the effects this alteration has on existing offsite streams.		Y	
3.5.1.3.3.5	3-9	9-11	A deck certainly can exist. Maybe you should say, none would be allowed. If the canted fill is in one branch of a divided hollow, and the face is parallel to the other, we are sacrificing one stream in favor of the other. If we are canting the face of a fill in a single hollow, the stream we are recreating will likely be ephemeral. I would not say we are recreating a valley with		Y	Revise to address the comment.

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			a flowing stream.			
3.5.1.3.5	3-9	3-11	This is most confusing and uses unfamiliar terminology. What is the main stem and opposite branch? This needs work or deletion.		Y	This section should be carefully reviewed by ECSI and Morgan Worldwide to ensure consistency with coal mining industry and regulatory program terminology and practice. Apply edits as appropriate.
3.5.1.4.1	3-9	5-11	This discussion does not accurately reflect practices employed in coal mine waste disposal structures handling combined refuse. It should be re-written or deleted.		Y	This section should be carefully reviewed by ECSI and Morgan Worldwide to ensure consistency with coal mining industry and regulatory program terminology and practice. Apply edits as appropriate.
3.5.1.4.1	3-10	3-4	Slurry cells are typically constructed on top of refuse piles or slurry impoundments that have been capped. Construction of slurry cells would not be a post mining land use for which an AOC variance would be granted.		Y	This section should be carefully reviewed by ECSI and Morgan Worldwide to ensure consistency with coal mining industry and regulatory program terminology and practice. Apply edits as appropriate.
		General comme nt	*No elevation ranges given for Appalachian or CO plateau areas.*	Karen Jass	Y	Review comment and apply for consistency.
3.5.1.4.1	3-10	11	Again, for reasons in common with excess spoil fills, the configuration of a coarse refuse pile cannot replicate the existing topography without impacting a larger than necessary area. We can strive to minimize the net impact.		N	
3.5.3.2	3-14	7-10 13-16	Do they mine by making a box cut and area mining across or along the permit? Are multiple variations of "surface mining" employed? How deep are the coal seams (range)? These may have an effect on final topography, and aid in familiarizing readers with unique aspects of mining in the region. Does this ever result in formation of impoundments? If so, what is done? Again, I would like to see more detail, particularly topographical variation throughout the region, how it could be subdivided, based on topography. I would expect topography in the northwestern part of the region to be different from that of the center, and both would be different from that of the southeastern part.		N	This comment has been addressed.

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3.5.0	3-2	21	Numbers of fills alone are misleading. Should also list percent by total fill volume and footprint acreage in each state. Volume and footprint of fills in Virginia are relatively small.	VA (BL)	N	Level of detail not necessary for intent of EIS.
3.5.1.1	3-4	3-7	This seems to be a very simplistic description of the topographic characteristics of the region. I would think a short geologic history might be in order here. Some of the topographical differences in different areas were touched upon, but significantly more detail is required if readers, unfamiliar with the region are to have any understanding. Local relief and slope steepness are important but the description should make it clear why slope and relief are so different in, for example, southern versus northern West Virginia. With proper explanations, and inclusion of all of the Appalachian region, the image could be excellent, the detail appears to be appropriate: the valleys and ridges and the Appalachian Plateau, and their extents and orientations are visible. The superimposed image of the coal reserves would be helpful as well, if it were revised to include the entire region. It may be useful to point out where the highest value, metallurgical coal reserves are located.		N	
3.5.1.3.3.5	3-9	1-11	This is fine, as long as the profile used in the stability analysis runs perpendicular to the fill face, and not along the underlying stream alignment.		N	This comment has been addressed in another comment.
3.5.1.3.5	3-9	3-4	Canting the face of the fill so that the face is not perpendicular to the adjacent stream is not a logical statement. What does this mean?		N	This comment has been addressed in another comment.
3.5.1.4.1	3-9	36	A description of where coarse and fine refuse come from should have been included at the point in the EIS where the subject was first discussed. A summary of salient points might be useful here.		N	
3.5.1.4.1	3-10	5-8	Disposal of combined refuse is problematic in that it is very difficult to reduce the moisture content to a level at which the material can be placed and compacted into a stable configuration, particularly in wet or winter weather. The stream of refuse from the mine is too wet to compact, and the stream never stops.		N	
3.5.0	3-1	19	A variance from AOC can be granted for appropriate post-mining land uses.	VA (BL)	N	This information is covered later in section.

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3.5.0	3-1		"Once the rock is broken, referred to as "spoil,"" Well, it actually is overburden until it has to be moved out of the way of coal removal, then it is called spoil as it is no longer of use or value (until backfilling of the hole is required).	Karen Jass	N	This level of distinction is not significant to the intent of this section.
3.5.0	3-2	7	'mining ratio' ????? It is called the 'stripping ratio'. Alternatively, you could say 'ratio of overburden to coal'.		N	No change necessary.
3.5.0	3-2	4-14	The third and fourth sentences, about the Appalachian region should be the case in point, with sentences about the Powder River Basin being representing the contrasting case. The Gulf Coast case would represent a middle case, between the extremes.		N	Unclear direction of comment.
3.5.0	3-2	3-18	This discussion is a bit hard to follow. Why start with a description of mining in Gulf Coast Region when the topic is Appalachia?		N	Unclear direction of comment.
3.5.0	3-2	13-14	One sentence on the Powder River Basin not achieving AOC. Do they get AOC variances and why is that not discussed in this chapter.	WV (LH)	N	Duplicate. This comment has been addressed in another comment.
3.5.0	3-2	Figure 3.5-1	***Material Flow Chart*** ***I'm not sure of the point of this, esp showing the compacted valley fill. If the material is to be treated the same across the board, which indicate where it going to be disposed of?***	Karen Jass	N	Flow chart is a basic representation of process.
3.5	3-2	L-12	"there is insufficient material to achieve AOC." Incorrect statement. True there is insufficient material to achieve the pre-mining elevation over mined areas, but the available material is used to achieve topography similar to what existing prior to mining, thus achieving Approximate Original Contour.	Karen Jass	N	Thin overburden is an AOC variance. This will be discussed in another section.
3.5.0	3-3	Table 3.5-1	Does this information need to be conveyed in a table? All except App Basin are NO. This info will be covered in regional		N	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			section. Suggest deletion.			
3.5.0	3-3	Table 3.5-2	Does this information need to be conveyed in a table? All except APP Basin and Illinois Basin are NO. This info will be covered in regional section. Suggest deletion.		N	
3.5.0	3-3	3-12	If we are describing where coarse and fine refuse come from here, and I think we probably should, we may want to be straightforward and simple. For instance: "Most coal seams include shale layers, or partings, and sometimes rock from the roof or floor are taken for clearance or safety reasons. This rock must be removed from the coal. The coal from the mine is first washed by spraying with water. The coal and rock are passed through vats of a water/magnetite suspension in which the coal floats and the rock sinks, allowing the two to be separated. The coal is loaded for transport to market and the rock, or coarse refuse, is transported to a disposal facility. The fine material removed by the water spray also contains coal and rock particles. These are separated by bubbling air through the suspension of coal and rock particles in water. The coal particles, being hydrophobic, tend to become trapped in the bubbles, while the rock particles tend to remain suspended. The bubbles and fine coal overflow the vat, and the coal is collected for sale. The rock particles, or fine refuse, remain suspended and are pumped in slurry form to an impoundment or other disposal facility. Operators commonly employ admixtures to enhance the reliability of these processes." This can probably be improved upon, but it is probably important that the readers understand why impoundments and refuse piles exist, and why there may be issues associated with certain forms of disposal.		N	
3.5.0	3-3	3-12	We may need to point out some of the pros and cons of the various forms of disposal.		N	Beyond scope.
3.5	3-3	Par 1	CHANGE: "This coal waste…" TO "The resulting coal waste…" This better follows on the previous sentence which indicates it must be processed. "…some use the coarse refuse to construct	Karen Jass	N	The proposed action has no bearing on the description of the affected environment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			[REMOVE: an] embankment[ADD: s] that is used to retain the fine coal refuse (slurry), a second type of facility combines the coarse and fine refuse and places the material in a single monolithic fill, the third type of structure disposes only of the coarse refuse and places the fine refuse in a different location such as a mine void." I think these descriptions allude to creation of slurry impoundments, valley/HoH fills and durable rock fills – which in the future will no longer be separately described in the proposed regulations.			
3.5.1.2	3-4	Par 2	Use of the term "steep slope" should be carefully used. In this paragragh, it refers to the "mountainous" terrain of Appalachia where storage space for overburden storage is limited. However, OSM has a mining term of "steep slope" which refers only the dip of the coal seam & that applies only to a WY mining. This paragraph can easily be misinterpreted to infer steep slope mining is used in this region.	Karen Jass	N	'Steep slope' is clearly defined in CFR. Special Bituminous mining discusses steeply inclined coal seams and reclamation steep slope allowances. Comment not applicable to the material.
3.5.1.3.1	3-5	31	Today, these would be recognized as characteristics of "Mountaintop Removal Mining".		N	Comment is not clear.
3.5.1.3.2	3-5	35-36	AOC applies to area and contour mining. Why not say "variances from AOC requirements are not applicable to contour mining."		N	Section is titled AOC variances, thus a discussion of mine types that are subject to AOC is not required.
3.5.1.3.2	3-5	34	...or better economic **of (or)** public....	VA (BL)	N	This comment has been addressed in another comment.
3.5.1.2	3-5	Par 2	"Contour mining would be utilized when coal seam depth is excessive and there are right of entry constraints..." I'm not sure I would agree with this, as contour mining access the coal outcropping around side of a hill/mtn. It would seem to me the stripping ratio in this case would warrant mining in this method & the coal seam wouldn't be	Karen Jass	N	This comment has been addressed in another comment.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
			excessive. Also, again, as this is a surface operation, why would this enable access if there is a problem right of entry? "Underground mining methods would be considered when surface mining is uneconomical due to excessive coal seam depth, if property (mineral) rights have issues,..." Again, I don't understand this sentence. If there are problems with the property owner – the SURFACE OWNER – going underground would be around that, but I don't understand the scenario of a problem w/ the mineral owner. Pls explain this circumstance.			
3.5.1.3.1	3-5	PAR 3	"that spoil material will be placed on the mine bench in a configuration that adheres to AOC,..." CHANGE TO: that spoil material will be backhauled on the mine bench in a configuration that replicates the pre-mining topography,'	Karen Jass	N	Replication of pre-mine topography is not the regulatory requirement. AOC is the regulatory requirement and is used here because AOC revisions are part of the proposed action.
3.5.1.3.1	3-5	Par 6	"...trend to elevate the fill decks and depress the backfill elevations thereby..." Please explain this statement. Does it mean to fill the valley fills to the top of ridge line and minimize the amount of backfill on the top of the mountain?	Karen Jass	N	No action necessary.
3.5.1.3.3.1	3-6	Par 1-3	There is no discussion of the proposed regulations that only consider a single type of excess spoil structure, under the new 30 cfr 816.71. This should address this proposed change and the affects to construction criteria. In addition, the construction of the various fills was previously discussed in details – see section 3.1.7	Karen Jass	N	This section only discusses the affected environment and does not discuss the proposed action.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)		Proposed Disposition
3.5.1.3.3.2	3-6	Par 4	"first and preferred option for disposing of excess spoil" This is an incorrect statement. Overburden material placed on a bench within the pit is NOT excess spoil. It only becomes excess spoil if it won't fit back in the pit and must be placed OUTSIDE the footprint of the mined-out area. This term is used 3 times in the paragraph incorrectly. Please correct.	Karen Jass	N	This comment has been addressed in another comment.
3.5.1.3.3.5	3-8	22-29	We should note that these policies are steps in the right direction, but do not represent the end of the path. For example, the backfill volume calculations allow inclusion of a heavy access road with a berm sized for heavy vehicles, and a drainage ditch around the entire mined area. This is not needed in most areas, and results in a slice of material, extending from the perimeter of the mined area to the top of the fill, all the way around the mined area, being removed from the backfill and being transported downslope (cheaper) and placed in excess spoil fills. Severely restricting this road/berm/drainage allowance to areas where it is actually needed would do more to reduce excess spoil volumes than any other single thing we could do.		N	This material should only describe the affected environment including the regulatory environment.
3.5.1.3.3.5	3-8	30-37	The concept of sloped versus flat fill decks is great.		N	Not change necessary.
3.5.1.3.5	3-8	37	It should be noted that moving the toe of the excess spoil disposal structure upstream, that the result is placing the toe in steeper slopes thus reducing the factor of safety.		N	This comment is addressed in another comment.
3.5.1.3.5	3-8	24-25	"The policies also define how much higher the deck of a valley fill must be raised above the elevation of the lowest seam mined." To someone unfamiliar with valley fills, an illustration would probably be a big help.	UT	N	The reader is referred to the policy documents (WVDEP Permit Handbook, Section 29) and (RAM 145).
3.5.1.3.5	3-8		"more than 50% contour" Does this mean the operation is mined w/ 50% coal removal using contour mining?	Karen Jass	N	The reader is referred to the policy documents (WVDEP Permit Handbook, Section 29) and (RAM 145).

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		Par 2 Par 4 & 5 Par 6	"higher the deck of a valley fill must be raised above the elevation of the lowest seam mined." AND "traditional flat deck fills." AN D "By backstacking additional mine spoil on the deck of valley fills and blending this fill with the backfilled mined out areas, a continuously terraced backfill area is created that eliminates flat decks." Please explain what this means in plain language. I am not intimately familiar w/ local terms and practices related to valley fills or MTR. Perhaps a drawing would be good here. "pre mining" Preming used in Section 3.1, and I have seen this as pre-mining, but never w/ just a space between the words. Please correct for consistency.			
3.5.1.4.1	3-9	38	The use of the term "compacted" here is misleading. Coarse refuse is transported to the embankment using belt lines or trucks, and spread with dozers.		N	This level of detail is probably not necessary.
3.5.1.3.6	3-9	23	Include: *for some fill types, e.g., durable rock fills.* After ...of 1.1.	VA (BL)	N	Comment is not clear.
3.5.1.3.5	3-9	Par 1	"A canted valley fill is an excess spoil structure that is [DELETE:"canted"] or skewed..." The word being defined is also used as a definition.	Karen Jass	N	
3.5.1.3.6	3-9	Par 2	"The objective of [REMOVE: most Federal] regulatory requirements ... stability". The objective of ALL REGULATORY REQUIREMENTS (STATE, LOCAL, FEDERAL)	Karen Jass	N	

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		Par 3	is making sure the stored material IS stable – PERIOD. Also "safety factor (SF) of 1.5 and dynamic SF of 1.1." was previousl stated in section ***3.1.7.6 Stability of Excess Spoil Fills (page 3-43)***			
3.5.1.4.1	3-10	18	I find it hard to believe that no information was available for Virginia, Maryland, or Alabama. Maybe not from the cited source, but other sources are available.		N	This comment has been addressed.
3.5.1.4.2	3-10	17	Replace "Coal Waste Disposal" with "Coal Mine Waste Disposal".		N	This comment has been addressed.
3.5.1.4.2	3-10	14	Replace "coal waste" with "coal mine waste".		N	This comment has been addressed.
3.5.1.4.2	3-11	Figure 3.5-4	The colors shown in this graph won't be distinguishable if the EIS is printed or viewed in B&W. Perhaps symbols would be better used.	Karen Jass	N	Not necessary.
3.5.2.1	3-12	3-6	Better than the description of the Appalachian region, but still lacking in history and detail.		N	This comment has been addressed.
3.5.2.3.1	3-13	5	Accommodate the bulking; not the bulking factor		N	This comment has been addressed.
3.5.2.3.1	3-13	8-11	Was the only source of information from New Mexico a single phone interview with Mr. O'Hara? That appears to be the case.		N	This comment has been addressed.
3.5.2.3.1	3-13	12-15	Was the only source of information from Colorado a single phone interview with Mr. Kaldenbach? That appears to be the case.		N	This comment has been addressed.
3.5.3.1	3-13	23-25	I think a little more detail about topography can be provided beyond "rolling, elevation range, and local relief". Rather than a couple of general statements about the entire region, I would like to read about how the region could be subdivided based on topography.		N	This comment has been addressed.
3.5.2.3.1	*3-13*	Par 1 & 2	"placed on the mining bench" replace with "placed within the mined out area of a pit" I don't know that the term benches are used in this region to define where the overburden is dumped in the pit using a dragline.	Karen Jass	N	This comment has been addressed.
3.5.3.3.2	3-14	18	Does this ever result in formation of impoundments? If so,		N	Impoundments are not considered an

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			what is done? Would an AOC variance be required if an impoundment is formed?			AOC variance.
3.5.3.4	3-15	1-3	To be consistent, we should refer to this as "coal mine waste" rather than "coal waste"		N	This comment has been addressed.
3.5.4.3.1	3-16	16	Bulking, or swell, of the overburden; not "swell factor"		N	This comment has been addressed.
3.5.4.3.1	3-16	18-19	Was the only source of information from the region a single phone interview with Mr. Langer? This is the only source cited, with the exception of the image.		N	This comment has been addressed.
3.5.4.4	3-16	26	Coal *mine* waste disposal		N	This comment has been addressed.
3.5.4.4.1	3-16	33-35	Was no one from Illinois available for comment?		N	This comment has been addressed.
3.5.4.4.1	3-16	32	Subtitle should read Coal Waste Disposal Methods.	MCR (KG)	N	This comment has been addressed.
3.5.4.3.1 & 3.5.4.3.2	3-16	Par 4 & 5	"Additionally, some operations request a variance for the final cut to be reclaimed as an impoundment rather than backfilled to AOC. **3.5.4.3.2 AOC Variances (including trends by operation type)** No AOC variances are needed because of the topography." These two statements contradict each other & they are adjacent to each other. What???	Karen Jass	N	This comment has been addressed.
3.5.5.2	3-17	16	You say topography affected little and no AOC variances but you mention in 3.3.5.0 page 3-2 line 13-14 that that type of mining can't achieve AOC.	WV (LH)	N	This comment has been addressed.
3.5.5.4	3-18	15	Coal *mine* waste disposal		N	This comment has been addressed.
3.5.6.1	3-18	20-23	Again, a detailed description of the topography and variations thereof would be helpful.		N	This comment has been addressed.
3.5.6.1	3-18	23-36	The text includes a general description of the topography of the mid-eastern part of the state, but the map indicates areas over the entire state. Again, a detailed description of the topography of each of the areas would be helpful since, after looking at the map, I would expect considerable variation from one area to another. Just because mining may currently be		N	This comment has been addressed.

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			occurring at only one complex, this will not always be the case.			
3.5.5.2	3-18	Par 1 Par 2	"storage area on the mining bench…" Again as stated earlier, western terminology doesn't use "mining bench". Overburden materials is returned to the pit as backfill "The mining in this region consists of mining multiple seams measuring 3 to 80 feet thick" One of the WY operations mines a 100' seam.	Karen Jass	N	This comment has been addressed.
3.5.6.3.1	3-19	13-16	What was the source of information for Washington and Oregon? None was cited. Was the only source of information from Alaska a single phone interview with Mr. Kirkham? That appears to be the case.		N	This comment has been addressed.
3.5.6.4	3-19	19	Coal *mine* waste disposal		N	This comment has been addressed.
3.5.6.4	3-19	20-22	Are other coal ranks present in the region, but not currently mined? If so, should we discuss historical and probable future processing and coal mine waste disposal practices?		N	This comment has been addressed.
3.5.6.2	3-19	Par 1	"The one active "complex" of three mines in Alaska is a multi-seam coal mine". Actually the Usibelli mine has multiple pits, similar to those at other western mines (Navajo mine, Kayenta/Black Mesa mines)	Karen Jass	N	This level of detail is not significant to intent of material.
3.5.7.3.2	3-21	15	Coal *mine* waste disposal		N	This comment has been addressed.
			Much better discription of fills in section 3.1.6 starting on page 3-38.	WV (LH)	N	This comment has been addressed.
			There seems to be some confusion here with respect to whether you are talking about refuse fills or excess spoil fills	WV (LH)	N	This comment has been addressed.
3.5.2.2		n/a	3.5.2.2 Topography and Choice of Mining. This discuss appears to have too many generalizations and is very brief. The lack of excess spoil use/need in the Colorado Plateau isn't the only reason for choice in mining or the sole reason our topography has not been affected by mining	Mychal Yellow	N	This comment has been addressed.

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3.5.2.3.1	3-13	3	There is only one coal mine in the state? I question the rigor of the research employed in a number of areas in this document, including this one.		N	This comment has been addressed.
3.5.4.2	3-16	5-11	Are there never issues related to not having enough spoil to completely fill surface mine pits? I have heard people say this is sometimes an issue in the Illinois basin.		N	No change required.
3.5.4.2	3-16	Par 2	2008 data. EIS has 2009 available	Karen Jass	N	No change required.
3.5.1.2	3-4	15-16	Contradictory from the previous paragraph 3.5.1.1 where Northern WV is lumped in with PA and OH. So shouldn't it be here?	WV (LH)	N (D)	Addressed in another comment
3.5.1.3.1	3-5	16-17	This is not a good general description of the Appalachian region topography. The Appalachian basin is, for the most part, a middle aged eroded plateau. The relatively flat surface of the plateau is eroded to the point that only the ridge tops are at its approximate original elevation. Eventually erosion will proceed to the point that isolated hills will remain above wide flood plains. Currently, however, wide flood plains are present only along the larger rivers. In most of the region, flood plains are small or nonexistent. The dominant landform by far is the ridge, with slopes on both sides descending to narrow stream channels. This rarity of relatively level land is a defining characteristic of the region.		N (D)	This comment is addressed in another comment.
3.5.1.3.2	3-5	33-38	This section is not accurate. AOC variances are granted for other operations than area mining. The explanation of approval criteria is not accurate.Why is only an AOC variance in west Virginia references?		N (D)	This comment has been addressed in another comment.
3.5.1.3.2	3-5	33	This definition is not only for WV. Shouldn't it reference the Federal definitions? Another example of more emphasis on WV than on other states.	WV (LH)	N (D)	This comment has been addressed in another comment.
3.5	3-12	n/a	Table 3.5-2: Use of Coal Waste Disposal Impoundments, the Northwest it says there are none, Centralia has at least one coal mine waste impoundment (Impoundment 3D)	Mychal Yellow	N (D)	This comment has been addressed.
3.5.2.1	3-12	n/a	General Topographic Characteristics of Region. This discussion seems sparse. So it is hard to make any comment, other than this needs more detail. Each region's discussion is brief, and their introduction paragraphs differ greatly	Mychal Yellow	N (D)	This comment has been addressed.

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	EIS Chapter 3, Part 3.6 – Surface Water (Gulf Coast, Illinois Basin, Other Western Interior Regions)
Contact Information	
Name	
Telephone Number	
Email	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
3.6.0	3-1	16	Add an "s" to concentration.	OSM EIS Hydro Team	
3.6.0	3-1	20	Should read "...well document**ed**."	OSM EIS Hydro Team	
3.6.0	3-2	2-8	I don't agree with the opinion that only limited studies on hydro and water quality relative to coal mining are available after 1984. Two excellent references are PADEP's Coal Mine Drainage Prediction and Pollution Prevention in Pennsylvania (1998) and ADTI's Prediction of Water Quality at Surface Coal Mines (2000). There are many more.	OSM EIS Hydro Team	
3.6.0	3-2	14-23	This entire paragraph is cumbersome and needs to be rewritten for clarity.	OSM EIS Hydro Team	
3.6.0	3-2	28-29	What is meant by, "...when water quality constituents can be achieved"? ? "*...when water quality constituents are within acceptable concentrations*"?	OSM EIS Hydro Team	
3.6.0	3-2	30	"..required to achieve **no more than** 0.5 mL/L..."	OSM EIS Hydro Team	
3.6.0	3-2	30	"...less than **or equal to** the 10-year 24-hour design storm."	OSM EIS Hydro Team	
3.6.0	3-2	38-40	I have no idea what this sentence is trying to say.	OSM EIS Hydro Team	
3.6.3.1	3-26	23-29	Why is the description of climate within the Gulf Coast Region focused solely on Texas instead of including all the states within this Region? This type of information is readily available for all states.	OSM EIS Hydro Team	

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3.6.3.1	3-26	24	Based on Figure 3.6-13, it appears the average precip in the "...coastal **mining area** of Texas..." ranges from 20 inches (south) to 50 inches (east). Precip in Texas within the Gulf Coast Region appears to range from 20 to 70 inches; however, the colors for the 50-70 inch range and 70-100 inch range are too close to differentiate. The source of the data (not just figures) needs to be included for all sections.	OSM EIS Hydro Team	
3.6.3.1	3-26	25	The narrative references evaporation, but Figure 3.6-14 is of evapotranspiration.	OSM EIS Hydro Team	
3.6.3.1	3-26	28-29	The temperature and wind discussions refer to Figure 3.6-15 and 3.6-16; however, these maps do not illustrate monthly temperature ranges and wind direction as reported.	OSM EIS Hydro Team	
Figure 3.6-14	3-29		The map legend shows the evapotranspiration low as "0" and high as 6.67811 inches which does not correlate with the narrative on page 3-26.	OSM EIS Hydro Team	
3.6.3.2	3-31 3-32	4-6 1-6	The Hydrology section presents regression equations developed for Alabama streams but does not include any results, data, or conclusions on streams within Alabama or any other state within the Gulf Coast Region. What is the purpose of presenting this info? The Hydrology section does not contain anything of value to the hydrology of the Gulf Coast Region.	OSM EIS Hydro Team	
3.6.3.3	3-32	8-14	I find this data has limited value to this document. At a minimum, I believe this section should have presented a general discussion of water quality within the coal-mining areas of all states within the Gulf Coast Region. This data is generally readily available from various state/federal agencies and published materials. Based on the *Introduction*, I expected sulfate, bicarbonate, and selenium to be specifically discussed; however, these parameters are not mentioned - only very minor conductivity and pyrite info was presented from one study in Texas. The report should be consistent with the unit used for conductivity (dS/m or µS/cm).	OSM EIS Hydro Team	

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3.6.4.1	3-32	22-23	This discusses pan evaporation, but Figure 3.6-18 is evapotranspiration.	OSM EIS Hydro Team	
Figure 3.6-18	3-34		Clarify the meaning in the legend of low = "0" and high = 6.67811 inches (does not match narrative).	OSM EIS Hydro Team	
3.6.4.1	3-32	24-25	The temperature and wind discussions refer to Figure 3.6-19 and 3.6-20; however, these maps do not illustrate monthly temperature ranges and wind direction as reported.	OSM EIS Hydro Team	
3.6.4.2	3-37	5-7	Whether or not a stream will dry up in periods of low-zero precip is dependent on whether or not it receives baseflow (provided there is no other source of water such as pumping). Strata underlying a waterway cannot provide baseflow (regardless of its permeability or storage capabilities) if the local water table is below the base of the stream. Provide the source for the statement that many streams with <100 mi2 drainage areas will go dry. If the source is Table 3.6-10, please refer to the comment below.	OSM EIS Hydro Team	
3.6.4.2	3-37	8-10	It is stated that most of the sites included in Table 3.6-10 with a drainage area <100 mi2 have a discharge of <1 cfs (7Q2) and 0 cfs (7Q10). While this is a true statement based on Table 3.6-10, it is slightly misleading, because: • only 9 of the 24 sites (37.5%) have a drainage area >100 mi2 • of the 9 with a drainage area >100 mi2, only 1 (11%) has a discharge rate] to 1 cfs (7Q2 or 7Q10) Therefore, only **4.2%** of **all** the sites listed has a drainage area >100 mi2 and a 7Q2 or 7Q10 > 1 cfs.	OSM EIS Hydro Team	
3.6.4.2	3-37	13-14	The statement concerning "hilly topography" needs to be clarified. While there are areas of some topographic relief, much of the area within the Illinois Basin is relatively flat (glaciation). (e.g. *In areas with significant topographic relief, flash floods may occur...*)	OSM EIS Hydro Team	
3.6.4.2	3-38	2-5	This section should contain more recent data on the Ohio River.	OSM EIS Hydro Team	

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3.6.4.2	3-38	6-13	The regression equations in Table 3.6-11 do not add any pertinent information on the hydrology of Illinois Basin. What is the value in including these equations?	OSM EIS Hydro Team	
3.6.4.3	3-38	14	Based on the *Introduction*, I expected bicarbonate and selenium to be specifically discussed; however, these parameters are not mentioned. Water-quality data are readily available particularly for the Illinois Basin (e.g. Hydrology of Area 31, Eastern Region, Interior Coal Province, Illinois and Indiana, Water-Resources Investigations Open-File Report 85-342).	OSM EIS Hydro Team	
3.6.4.3	3-38	16-17	Suggested language (or something similar): "Streams in areas affected by coal mining within the Illinois Basin tend to have higher dissolved solid concentrations than in streams located in unmined and undeveloped areas."	OSM EIS Hydro Team	
3.6.4.3	3-38	19-21	The equation adds nothing of value to this discussion.	OSM EIS Hydro Team	
3.6.4.3	3-38	21-24	The presentation of this data is basically irrelevant without providing a brief discussion of the study including location(s). Although the sites are located on Figure 3.6-21, the foundation of the study needs to be presented early on in the discussion.	OSM EIS Hydro Team	
3.6.4.3	3-38	25-26	There could be other reasons for elevated sulfates other than coal mining. Suggest revising to, "High sulfate concentrations in the waters of an area **may be** an indicator ..."	OSM EIS Hydro Team	
3.6.4.3	3-38 3-39	26-28 1-6	Need to clarify the "...observed area**s of the Quinones study**..." Also, were other possible contributing factors of the elevated sulfate presented or iscussed in the study? If so, this needs to be pointed out.	OSM EIS Hydro Team	
3.6.4.3	3-39	8	Surface mine lakes (final-cut lakes) are formed by various surface-mining methods including, but not limited to, draglines.	OSM EIS Hydro Team	
3.6.4.3	3-39	9-10	This sentence is misleading. With coal mining today, lakes are created either as final-cut lakes or at the request of the landowner – both in compliance with the approved post-mining land use.	OSM EIS Hydro Team	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			Surface-water ponding, a drainage problem, may occur as a result of subsidence from underground mining which is remediated either through the active SMCRA permit or by the abandoned mine land program for pre-SMCRA underground mines. Current mining practices do not allow for "uneven backfill" that would result in surface-water ponding. Grading must be completed in accordance with the approved mining and reclamation plan.		
3.6.4.3	3-39	13-14	It is stated that conductance ranged from 130 to 7,800 µS/cm followed by another sentence that stated the largest values ranged from 2,000 to 5,000 µS/cm. Why are two sets of different ranges provided for the same set of lakes?	OSM EIS Hydro Team	
3.6.4.3	3-39	15	The significance of the improved mining methods since the 1980s relative to water quality should be explained.	OSM EIS Hydro Team	
3.6.7	3-49	12	The title of this section should read "Western Interior Basin."	OSM EIS Hydro Team	
3.6.7.1	3-49	14-26	The source of the data needs to be identified (not just in the figures).	OSM EIS Hydro Team	
3.6.7.1	3-49	17-18	The reported range for precip does not appear to correlate with Figure 3.6-26.	OSM EIS Hydro Team	
3.6.7.1	3-49	23-24	This sentence does not make sense.	OSM EIS Hydro Team	
3.6.7.1	3-49	25-26	The temperature and wind discussions refer to Figure 3.6-28 and 3.6-29; however, these maps do not illustrate monthly temperature ranges and wind direction as reported.	OSM EIS Hydro Team	
Figure 3.6-27	3-51		The map legend shows the evapotranspiration low as "0" and high as 6.67811 inches which does not correlate with the narrative on page 3-49.	OSM EIS Hydro Team	
3.6.7.2	3-54	7	The flow equation does not add any value to the hydrology discussion.	OSM EIS Hydro Team	
3.6.7.2	3-54	10-13	Provide the source for the statement that most streams with <50 mi2 drainage areas will cease to flow for the given interval. If this is from a study for a particular area, the study and the area need to be identified. Provide the source for the statement, "Low flows of most streams are not sustained during droughts because there are few aquifers capable of providing substantial quantities of	OSM EIS Hydro Team	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			ground-water inflow." Explain the use of the term, "unregulated streams."		
3.6.7.2	3-54	14-22	The flood frequency equations and information is of minimal value to this section.	OSM EIS Hydro Team	
3.6.7.2	3-55	1-12	This info is of minimal value to this section.	OSM EIS Hydro Team	
3.6.7.2	3-55	13-20	This info is of minimal value to this section.	OSM EIS Hydro Team	
3.6.7.3	3-55	21	Based on the *Introduction*, I expected bicarbonate and selenium to be specifically discussed; however, these parameters are not mentioned.	OSM EIS Hydro Team	
3.6.7.3	3-55	22-29	Provide the source for this info.	OSM EIS Hydro Team	
3.6.7.3	3-56	1-5	Provide the source for this info.	OSM EIS Hydro Team	
3.6.7.3	3-57	1-16	Provide the source for this info.	OSM EIS Hydro Team	
3.6.7.3	3-57	3-5	SMCRA does not set water quality standards. The CWA folks have this duty.	OSM EIS Hydro Team	
3.6.7.3	3-58	3-5	Provide the source for this info.	OSM EIS Hydro Team	
3.6.7.3	3-58	10	"...shallow perch**ed** lakes..."	OSM EIS Hydro Team	
3.6.7.3	3-58	10	µmho**s**/cm Need to be consistent with units.	OSM EIS Hydro Team	
3.6.8	3-59	1	If subsidence is the only potential underground mining effect discussed, this section should be renamed to something like, "Subsidence-related Impacts from Underground Mining."	OSM EIS Hydro Team	
3.6.8	3-59	5	Pillar extraction and retreat mining are essentially the same thing.	OSM EIS Hydro Team	
3.6.8	3.59	10-11	Ponding is another big issue.	OSM EIS Hydro Team	
3.6.8	3-59	16	Whatever the depth to mining is = overburden depth/thickness.	OSM EIS Hydro Team	
3.6.8	3-59	17	Lithology is an important factor.	OSM EIS Hydro Team	
3.6.8	3-59	17	Tom Galya?	OSM EIS Hydro	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
				Team	
3.6.8	3-59	17-19	The beginning of the sentence references Galya, and the end references Kendorski?.	OSM EIS Hydro Team	
3.6.8	3-59	24	Correct spelling of "Kendorski."	OSM EIS Hydro Team	
3.6.8	3-59	27-32	Needs consistency in capitalizations.	OSM EIS Hydro Team	
3.6.8	3-59	28	Delete second "zone" or rewrite.	OSM EIS Hydro Team	
3.6.8	3-59 3-60	34-39 1-2	This is a direct quote – needs to be offset or bracketed by quotation marks.	OSM EIS Hydro Team	
3.6.8	3-60	9	Needs period at end of sentence.	OSM EIS Hydro Team	
3.6	3-2	1-8	There are many agencies, organizations, and universities that have provided research focusing on the hydrology of coal mining areas. A few of these agencies include the U.S.G.S. (and the WV USGS-Water Science Center, Charleston). Also, the IMWA (International Mine Water Association, the WVU-Water Research Institute, Wets Virginia University-NRAC and Departments of Geology and Forestry, and Marshall University have all conducted research on water quality issues have been conducted numerous hydrologic studies surrounding associated coal mining activities. With all this being stated, there is much research to do. The available mine permit data has never been robust enough for critical research. In effect, in my opinion there are more questions than answers. The lack of site-specific sites studied does not illuminate the cause and effects associated with surface water hydrology from surface mining activities. For example what is the cause and effect from the removal of stress- relief fracture systems on a reclaimed surface mine site hydrologic regime. Much more research is needed to understand valley fill and refuse impoundment hydrology.	OSM EIS Hydro Team	
3-6	3-2	30	0.5 mg/L rather than ml/L	OSM EIS Hydro Team	
3-6	3-9	2-3	There have also been regressions equations derived for WV streams	OSM EIS Hydro Team	
3-6	3-9	7-13	The data does not indicate the year of the data	OSM EIS Hydro Team	

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3.6	3-9	7-13	Table 3.6-1 shows 11-41 percent standard error of estimates. What use it this data?	OSM EIS Hydro Team	
3.6	3-10	1-8	Tables 3.6.2 and 3-6.3 show extraordinary high standard of estimate of 37-50. What use would this data be?	OSM EIS Hydro Team	
3.6	3-11	1-15	The Monongahela River Basin is located in West Virginia in partHigh standard error of estimates that average from 21-31 percent. What good is this data?	OSM EIS Hydro Team	
3-6	3-12	15	Define where the # 2 and 4 WV watersheds are located	OSM EIS Hydro Team	
3.6	3-12	22	In fills not on fills	OSM EIS Hydro Team	
3.6	3-12	10-17	The curve numbers refereed to are abnormally high and do not reflect wooded areas. There is an inconsistency between line lines 7-8 showing a CN of 73 and lines 10-17 that refer to CN #'s of 85-93.The CN numbers of 85-93 are CN numbers for impervious surfaces, not wooded areas, i.e. forests.	OSM EIS Hydro Team	
3-6	3-12	28-29	The statement is made that "excess spoil is placed on previous mined areas, on benches and in side-fills. Acid-base accounting data from permit drill data dictate what and where overburden material is placed. No acid-toxic material is placed in valley fills. In fact, overburden spoil material that is acid toxic material is placed high and dry in the backstack. Even more acid-toxic material is isolated into encapsulation cells to prevent AMD into receiving streams.	OSM EIS Hydro Team	
3-6	3-12	23-27	End dumping in West Virginia has come to an end. Bottom- up valley fill construction is the only method allowed for new permit(s) durable rock (valley) fills.	OSM EIS Hydro Team	
3-6	3-12	30-34	The FRA is somewhat incompatible for current reclamation practices of WV surface mine material in that it would yield higher concentrations of total dissolved solids (TDS), but would be better for the re-vegetation.process.	OSM EIS Hydro Team	
3-6	3-13	10-11	The statement is made that "very few studies of the hydrologic characteristics of loose-dumped spoil using the FRA. This is because the loose compaction reclamation practice has only been in the implementation stage in West Virginia for 2-3 years.	OSM EIS Hydro Team	
3-6	3-14	1-11	What state does this data come from? What seams were mined? The table and associated does not state what type of surface mining and underground mining are reflected in Table 3.6-6 and narrative. The TDS values do not appear to be	OSM EIS Hydro Team	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			normalized with respect to streamflow. What is the distance from the discharge point to the sample point?		
3-6	3-16	15-16	The statement is made that 79 percent of the time, the correct land use was predicted based on only on pH and specific conductance. This sentence needs to be clarified.	OSM EIS Hydro Team	
3-6	3-16	17	The data in Table 3.6-8 shows higher TDS in deep mines whereas in Table 3.6-6 surface mines show higher TDS values. Why the inconsistency between the data in the two tables?	OSM EIS Hydro Team	
3-6	3-17	1-3	In Table 3.6-8 sulfate was not shown. Sulfate would have been a better choice than alkalinity, since bicarbonate was shown, or just add sulfate to this table.	OSM EIS Hydro Team	
3-6	3-18	11-13	Add sulfate to the discussion in the narrative.	OSM EIS Hydro Team	
3-6	3-59	5	The shortwall mining method has not been utilized in the U.S. for the last 20 years.	OSM EIS Hydro Team	
3-6	3-59	17	Galya, not Gayla; use Galya, 2007 no first or middle initial in citation should be used..	OSM EIS Hydro Team	
3.6	ALL	ALL	Consistency. There were different points of emphasis for each of the regions.	OSM EIS Hydro Team	
3.6	3-1	11-12	Overall Comment. Climate discussion was to have an emphasis on precipitation, which is appropriate. However, the illustrations of wind and temperature provide little value for the surface water discussion. Similarly, discussion of evapotranspriation is more applicable to surface water discussion, but provides little value for the purpose of this EIS. Recommend focusing on precipitation only.	OSM EIS Hydro Team	
3.6	3-1	13-15	Overall Comment. The relationship of specific conductance and/or TDS to biota is an important element in this EIS. However, discussion largely focuses on the correlation between specific conductance and TDS. More discussion is needed on how those parameters related to aquatic biology. It would be useful to see periodic cross references to Section 3.12 (Terrestrial and Aquatic Biology).	OSM EIS Hydro Team	
3.6	3-1	16-20	Overall Comment. TDS is the only water quality parameter that should be discussed in this section, since TDS is largely influenced by surface flow intensity. Discussion of Selenium, Iron, Mn, and AMD in general should be presented (as already exists) in Section 3.9 (Radionuclide and Chemical Contaminant Transport).	OSM EIS Hydro Team	

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3.6	3-2	1-6	This language indicates that the coal mining industry and regulatory agencies have little to no insight in regards to hydrologic impacts and hydrologic consequences since about 1984.	OSM EIS Hydro Team	
3.6	3-2	6-8	Every coal mine permit in the country is required to have a Cumulative Hydrologic Impact Assessment (CHIA). Therefore, there are more than a "few selected studies that have been published", to account for influences of mining and reclamation techniques.	OSM EIS Hydro Team	
3.6	3-2	9-10	I recognize that the sections will vary based on available information, but I believe several elements key to this EIS are missing. I believe the following discussion is needed for each of these key elements, and discussed in the order listed – (1) Seasonal variation in regions. Existing discussion of precipitation, ET, and peak flows are useful. Add more discussion of how those elements vary in the regions. The discussion will support the concept of requiring 12 evenly spaced monthly samples. (2) Steams – ephemeral, intermittent, perennial. Ephemerals in particular vary greatly between regions. This becomes important related to the sequencing concept. Therefore, a discussion of where mining occurs related to these three types of streams is important. Include a percentage per stream type per region. (3) Sediment transport. Discussion of SEDCAD and curve numbers would be useful next. Relate to affects on aquatic biology and cross reference to Section 3.12. (4) Water impoundments. Discuss requirements to manage sediment and peak flow quantity. Discuss dam building period in the U.S. and general stream flow management. Discuss adaptive environment, for instance, water impoundment in an arid environment provide for locally enhanced recharge and creation of aquatic habitat. (5) NPDES discharges and storm water management. Frequency of discharges and/or violations.	OSM EIS Hydro Team	

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3.6	3-5	1-3	Figure 3.6-2. Graphic is not useful. Discussion language can be retained.	OSM EIS Hydro Team	
3.6	3-6	1	Figure 3.6-3. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-7	1	Figure 3.6-4. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-9 to 3-11	Table s	Tables 3.6-1 through 3.6-5. I find these tables to be of little value. The estimating equations should be solved based on typical drainage areas, so that the affected environment can be assessed in Chapter 4.	OSM EIS Hydro Team	
3.6	3-12	35-42	This paragraph discusses fundamental aspects observed from the Forest Reclamation Approach. For instance, a noted increase in hydraulic conductivity at an Ohio surface mine, is not unique. Recommend replacing these few sentences with a discussion of concept and results of the FRA. The concept is basically; don't compact spoil and you increase infiltration, which results in more productive vegetative growth.	OSM EIS Hydro Team	
3.6	3-15	1-3	Specific conductance and dissolved solids are correlated. Discussion of this correlation is useful; however, figure 3.6-6 does not add value.	OSM EIS Hydro Team	
3.6	3-15 to 3-20	ALL	Water quality should be discussed in Section 3.9.	OSM EIS Hydro Team	
3.6	3-22	1	Figure 3.6-10. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-23	1	Figure 3.6-11. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-24	1	Figure 3.6-12. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-25	3-4	The fact that many coal mines are in ephemeral stream basins (particularly in the Colorado Plateau) is significant. The relationship of mines in ephemeral, intermittent, and perennial streams is important and needs to be developed.	OSM EIS Hydro Team	
3.6	3-25	4-6	This statement is inaccurate. Ephemerals, specifically where the coal mines are located in the Colorado Plateau, primarily flow in response to local thunderstorms, and snowmelt may contribute a significant portion to flow in the high Rocky Mtns.	OSM EIS Hydro Team	
3.6	3-25	7-12	The equation is not useful without example solutions of representative areas the help characterize the variability.	OSM EIS Hydro Team	
3.6	3-25	21	Water quality should focus on sediment and associated	OSM EIS Hydro	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			transport.	Team	
3.6	3-25	30-31	The statement that trace elements are found in coal and overburden in significant concentrations needs supported by reference. Is this observation unique to the Colorado Plateau?	OSM EIS Hydro Team	
3.6	3-26	3-20	This is a very old study that is essentially pre-SMCRA. I question the application of the results as being representative and application to the Colorado Plateau. However, there are two important points that the information alludes to. These two points should be discussed in general terms. (1) The background concentrations of TDS near mines in the Colorado Plateau are so high, that the effects of mining on TDS are essentially non-detectable. (2) After reclamation, the spoil material goes through a flushing period, where it's expected that concentrations are elevated due to the fresh reactive surface area, and generally decrease with time.	OSM EIS Hydro Team	
3.6	3-29	1	Figure 3.6-14. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-30	1	Figure 3.6-15. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-31	1	Figure 3.6-16. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-32	1-6	The equations are not useful without example solutions of representative areas the help characterize the variability.	OSM EIS Hydro Team	
3.6	3-32	7	Water quality should focus on sediment, TDS, and associated transport.	OSM EIS Hydro Team	
3.6	3-34	1	Figure 3.6-18. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-35	1	Figure 3.6-19. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-36	1	Figure 3.6-20. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-38	6-13	Estimation of peak flow magnitude. The equations should be solved so that variations in flood magnitude for the 2, 5, 10, 25, 50, and 100 events can be discussed.	OSM EIS Hydro Team	
3.6	3-38	14	Focus water quality discussion to TDS and specific conductance. Remaining geochemical parameters should be discussed in Section 3.9.	OSM EIS Hydro Team	
3.6	3-39	7-15	Surface Mine Lakes. Discussion of the regions affected environments should be consistent. This is the only region	OSM EIS Hydro Team	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			with a discussion of surface mine lakes. I recommend this discussion be integrated with a discussion of water impoundments, and that discussion developed for each region.		
3.6	3-40	1	Section should be Northern Rocky Mountains and Great Plains.	OSM EIS Hydro Team	
3.6	3-42	3	Figure 3.6-23. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-43	1	Figure 3.6-24. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-44	1	Figure 3.6-25. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-45	9	Estimation of peak flow magnitude. The equations should be solved so that variations in flood magnitude for the 2, 5, 10, 25, 50, and 100 events can be discussed.	OSM EIS Hydro Team	
3.6	3-45	15-16	I don't think this statement is true for the region being described. Small steady flows result in ephemerals from the snowmelt, but summer rainstorms are mostly thunderstorms resulting in significant flash flow events.	OSM EIS Hydro Team	
3.6	3-46	7-9	Drainage areas for ephemeral streams in this region are enormous. The end of the sentence "especially for the small drainage area of ephemeral streams" detracts from the intended point and should be deleted.	OSM EIS Hydro Team	
3.6	3-46	22-24	Focus water quality discussion to TDS and specific conductance. Remaining geochemical parameters should be discussed in Section 3.9.	OSM EIS Hydro Team	
3.6	3-47	3-4	There are two valid coal mining permits in Washington State near Seattle. Discussion and characterization of this area is needed.	OSM EIS Hydro Team	
3.6	3-48	34	Many of the streams in Alaska are mostly derived from snowmelt, and have a very low conductivity value. However, stream derived from glacial melt water contain very high concentrations of sediment known as "glacial flour". I recommend discussing specific conductance in the context of these two variations of streams.	OSM EIS Hydro Team	
3.6	3-48	34	Focus water quality discussion to TDS and specific conductance. Remaining geochemical parameters should be discussed in Section 3.9.	OSM EIS Hydro Team	
3.6	3-49	4-5	Coal mining is not an important economic activity in the Yukon River Basin. "Mining" in the context of Oil/Gas and hardrock mining are significant. As written, leads the reader to believe	OSM EIS Hydro Team	

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			that coal mining is a significant economic activity.		
3.6	3-51	1	Figure 3.6-27. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-52	1	Figure 3.6-28. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-53	1	Figure 3.6-29. Graphic is not useful. Delete.	OSM EIS Hydro Team	
3.6	3-55	23-24	I don't know how this statement can be made without a comparative discussion of the disturbance activities or by citing a reference.	OSM EIS Hydro Team	
3.6	3-55	21	Focus water quality discussion to TDS and specific conductance. Remaining geochemical parameters should be discussed in Section 3.9.	OSM EIS Hydro Team	
3.6	All		Each of the regions has a section on Water Quality. While it is appropriate to discuss the regional characteristics of water quality, the general water quality discussion presented in section 3.9 may be better at the beginning of 3.6.	OSM EIS Hydro Team	
3.6.1.3	3-15	4	Consider replacing the word "reactive" with "pyritic". Most sulfate concentrations in Appalachia are due to the weathering of some form of "pyrite."	OSM EIS Hydro Team	
3.6.1.3	3-15	6-7	Consider placing parenthesis in the sentence to better explain the point of the sentence. E.g. Due to this, sulfate concentrations are lowest during high flows (dilution), and highest during low flows (concentration). The coal regions in Appalachia contain very little metamorphic or igneous rxs and pyrite is the dominate source of sulfate. Also, strata contain very little gypsum.	OSM EIS Hydro Team	
3.6.8	3-59	36-37	"Dewatering of the aquifer is usually limited to active mining areas." "Active mining area is an ambiguous term for underground mining. I suggest introducing the concept of "shadow area" here.	OSM EIS Hydro Team	
3.6.8	All		The 'preferred alternative" would really increase the amount of protection afforded to streams that are affected by UG mining. Stream restoration would be bonded and material damage to the hydrologic balance would be applied to stream dewatering. Section 3.6.8 really needs to be "beefed up" to describe the types of impacts to streams from subsidence. There is no mention that baseflow is often reduced because the local groundwater table is lowered and, as a result, intermittent	OSM EIS Hydro Team	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			streams turn into (either temporary or permanent) perennial streams. Also, hillside springs are often eliminated which also reduces baseflow to streams and can cause intermittent streams to become ephemeral. Please explain how stream flow can be diminished by either loss of baseflow from springs or groundwater or stream flow can be diminished by subsidence cracks causing the dewatering of streams by redirecting surface water down into the ground. Also, a general discussion on how planned subsidence also changes stream morphology by causing "pooling' at the gates and how planned subsidence creates wetlands in the subsidence troughs. These are huge surface water impacts from streams and the document does not provide a general discussion of these impacts. Also, maybe there should be a similar section like this added to the groundwater section or water resources planning section to discuss how planned subsidence impacts water supplies.... Several States, like Pa, keep statistics on the number of domestic water loss complaints from UG mining. This data could be used to discuss this impact. They also keep data on the number of stream dewaterings that are reported... This needs to be obtained and added to this section. Pa also hires a consultant each year to summarize impacts from underground mining...much of the report is about hydrological impacts. Brent Means of OSM (Harrisburg, Pa) can help locate this annual document that contains this data.		
3.61	general		One of the large impacts to surface water in Appalachia is from post-mining discharges, from both surface and underground mining. Wouldn't a discussion on the number of these discharges that exist, since SMCRA, be warranted to characterize one of the biggest impacts from mining on surface hydrology. OSM and most of the States have a mine drainage inventory that could be used to describe the number of surface and underground mine discharges. Again, Brent Means could help you obtain this data.	OSM EIS Hydro Team	
3.6.1.3	3-13 Thru 3.20		This section purports to describe water quality characteristics of the entire Appalachian Basin. Data presented to describe hydrologic characteristics are derived from Ohio, West Virginia, Pennsylvania, Kentucky, and Maryland. Tennessee and Virginia. No data is presented from Alabama. The geology and hydrology of Alabama coal fields varies	Alabama - Yes	Alabama is not included in Appalachia region but in the Gulf Cost section. However, Alabama is only referenced once in this document. Please contact Randy Johnson to obtain

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			dramatically from that of Northern and even Central Appalachia. To attempt to draw inferences from this data and apply it to Alabama is not valid. Data collected in Alabama indicates generally higher TDS and SC values in unmined streams than reported in other areas of the country. Benthic macro-invertebrate populations are different from those in cold water stream found in Northern or Central Appalachia. TDS constituents are greatly different as well. This section of the EIS attempts to characterize the hydrology of the entire Appalachian region based on data that is not representative.		information on Alabama for this section. 205-221-4130
3.6.0	3-1	10	The introduction to this section is more focused than previous sections – e.g., making clear that the purpose of this section is to assess the environment to be affected by surface coal mining operations, including mined and reclaimed areas. Other sections of Chapter 3 could benefit from this focus on the resources to be impacted rather than a focus on all resources within a particular area (e.g., # of police and firefighters).	EPA-Yes	Wanted to pass this comment on as it provides perspective
3.6.0	3-1	13-16	Suggest replacing this sentence with: "Due to the increasing body of scientific literature documenting the impacts of total dissolved solids (TDS) and specific conductivity associated with surface mining operations on stream biota, these constituents, specifically, have been given particular emphasis, along with contributing constituents including sulfate and bicarbonate."	EPA - Yes	revise
3.6.0	3-1	16	Selenium is classified as a non-metal.	EPA-Yes	revise
3.6.0	3-1	16-20	The last two statements in this paragraph are missing words, and therefore are not complete sentences. Does the notion that specific issues (all other significant water quality constituents in the EIS project area besides TDS) have been well-documented elsewhere preclude the need to consider, summarize, and/or verify in the subject Draft EIS? These are all equally important considerations pertaining to the chemical and biological health of streams and should be put in context in proposing stream protection regulations. Focusing on TDS only at this stage of the planning process suggests a pre-determined outcome.	EPA-Yes	revise

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3.6.0	3-1	22	Shouldn't the statement, "that have presumably been subjected to at least internal peer review and quality control/ quality assurance procedures implements" be verified?	EPA-Yes	Consider
3.6.0	3-2	2-3	It should be pointed out that despite the research focus from 1977-1984, the interagency PEIS on MTM/VF in Appalachia represents a significant investment of resources toward scientific evaluation of mining impacts and practices. Many appendices to this PEIS would be significant references to cite within the Appalachia section of this chapter but are generally missing.	EPA-Yes	Consider.
3.6.0	3-2	20-21	Recommend adding "intended to meet downstream treatment requirements under SMCRA and the Clean Water Act" after "head of hollow fills and durable rock fills" to clarify why such sediment ponds are constructed in the first place.	EPA-Yes	consider
3.6.0	3-2	21	Need a parenthesis at the beginning of this line.	EPA-Yes	Reivse
3.6.0	3-2	24-33	This paragraph is confusing because it mixes many different possible regulatory requirements into a single paragraph (effluent limitations, stormwater retention, and regional differences in implementation of these practices). Suggest significant re-writing to separate these ideas and identify why they are relevant to this section. It may be helpful to break up section 3.6.0 into separate sections reflecting historical hydrologic approaches and regulatory requirements. As a concluding sentence to this paragraph (to help the flow), OSM could add the following: "Emergence of new treatment techniques and Best Management Practices has been encouraged by SMCRA and Clean Water Act regulatory authorities to remediate downstream water quality impacts. Helping to standardize, evaluate, and implement these best-available techniques is a key goal of developing the stream protection rule."	EPA-Yes	Consider
	3-2	34-37	This paragraph has no relationship to the preceding or succeeding paragraphs and should be deleted or moved. It interrupts the logical flow of these ideas that otherwise emphasize past regulatory foci and mentions that a more holistic focus is needed).	EPA-Yes	Consider

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3.6.0	3-3	1	Additional parenthesis needs to be deleted	EPA-Yes	Revise
3.6.1 and figure 3.6-2	3-4	3	The text describes "evaporation", but the graphic (Figure 3.6-2) displays evapotranspiration, which is not defined in the text. It would be difficult to reconcile the number provided in the text (38 inches, annually presumably, but not explicitly stated) with map 3.6-2 gradient (which looks to be in the medium-high range). The chosen symbol for this figure is also inadequate, as it is difficult to tell the distribution across the color scale in the legend. Is evapotranspiration potential or actual (see section 3.6.4.1, which refers to pan evaporation indicating potential evaporation)?	EPA-Yes	Revise
3.6.1.1	3-4 to 3-6	All	This section would greatly benefit from a discussion of the likely impacts of climate change on these precipitation and temperature patterns. Modeling at such a regional scale is available from NOAA and other sources. Omission of a discussion of climate change within this section, as currently described, would be a glaring omission.	EPA-Yes	Consider
Figure 3.6-3 and related	3-6		"Zones" B and H are too similar in color – the reviewer is left to infer what the color red indicates.	EPA-Yes	Revise
3.6.1.1	3-7	1	Do we expect wind speed in this region (or other regions) to be affected by the proposed action? If not, how is this relevant to OSM's development of the stream protection rule? This information appears to be irrelevant, in the same way that hypothetically mentioning the number of sunny days experienced by the region is not relevant to OSM's action.	EPA-Yes	Revise
3.6.1.2	3-8	5	Suggest reworking the last line of this paragraph to capture the concept that runoff and flooding frequency and magnitude are further compounded by removal of vegetation and top soil, a common mining operation practice.	EPA-Yes	Revise
3.6.1.2	3-8	15-18	If this diagram is only applicable to streams with drainage <90 miles and "not outside the study area," how is it helpful to this chapter? It does not fit well within the document as it is currently placed and does not appear more broadly applicable if "large errors" may result in those cases. Also, this diagram does not help explain how mining activities may (or may not) alter the discharge rates as a result of storm	EPA-Yes	Revise

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			events, either for this specific study area or for the region overall.		
3.6.1.2	3-9	20-22	Given that these equations were developed more than 30 years ago, this section should reference the fact that climate change may also contribute to altering these precipitation patterns and the relationship described earlier.	EPA-Yes	Consider
3.6.1.2	3-11	2-15	Given that these equations are based on drainage area and differences between precipitation and evapotranspiration – both of which are quantities that are generally known within these basins – wouldn't it be better to present a map with probable peak discharges within the area of interest? Providing a general equation to the "user" is not helpful without some sense of what the equations mean.	EPA-Yes	Consider
3.6.1.2	3-11	17-18	Rather than simply stating that these equations do not apply to mined (non-forested conditions), shouldn't this document clarify how we would expect these parameters to change in a mined or post-mined condition?	EPA-Yes	Consider
3.6.1.2	3-12		Suggest explaining how the curve number might change during and after mining operations, and how this impacts hydrology. Also, line 8 suggests that selection of a curve number is "critical" to assessing a response (line 8). If a curve number reflects natural parameters in undisturbed sites (reflecting the actual runoff pattern in that region), how is a curve number "selected"? Isn't that number a given based on the characteristics of the watershed?	EPA-Yes	Consider
3.6.1.2.1	3-12	24	Recommend replacing "is" with "may be." Operators need not use specific fill placement practices.	EPA-Yes	Revise
3.6.1.2.1	3-12	30-34	These sentences on the forest reclamation approach do not fit within the remainder of the discussion and should be moved to a more appropriate place.	EPA-Yes	Consider
3.6.1.2.1	3-13	10-17	Are these conclusions still consistent with current mining practices?	EPA-Yes	Consider
3.6.1.2.1	3-13	27	"migrated" should likely be "migrate"	EPA-Yes	Consider
3.6.1.2.1	3-13	29-36	This set of sentences needs to be reworded to convey the idea that increased base-flow downstream from valley fills is not a benefit; it is indicative of decreased infiltration and recharge.	EPA-Yes	Consider
3.6.1.3	3-13	37	Strongly recommend using pertinent information from these recent EPA studies highlighting the water quality implications of mining operations in the Appalachian region:	EPA-Yes	Include information

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			"U.S. EPA. The Effects of Mountaintop Mines and Valley Fills on Aquatic Ecosystems of the Central Appalachian Coalfields (External Review Draft). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-09/138A, 2010" and "U.S. EPA. A Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams (External Review Draft). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-10/023A, 2010." Additionally, the significant peer-reviewed references cited in these publications are critical to characterizing the environmental impacts of Appalachian surface coal mining. In fact, the first paper cited above includes a succinct literature review of the impacts of these operations. Sections of this report could be adopted by OSM verbatim in order to more succinctly characterize existing mining impacts in Appalachia.		
	3-13	37	In addition to utilizing the studies above, this section desperately needs some description of why elevated conductivity and TDS are environmentally relevant, beyond the fact that mining causes elevated levels. The reason that this is of concern is because elevated conductivity and TDS have been demonstrated to have significant adverse impacts on aquatic macroinvertebrates and food web interactions in central Appalachian streams. Simply saying that concentrations are elevated is not helpful from an environmental perspective. The effect of these elevated concentrations on the aquatic community is the effect of interest.	EPA-Yes	Consider
3.6.1.3 and figure 3.6-6	3-14 and 3-15		1. Define the unit µS/cm 2. Note that the relationship between a microSiemen and a micromhos is 1:1 3. Reconcile that the text refers to µS/cm, but the graphic refers to µmhos/cm (3.6-6).	EPA-Yes	Include the third comment
3.6.1.3	3-17	4	Does this finding pertain to *all* streams (mined, unmined, reclaimed, abandoned) and stream types (ephemeral, intermittent and perennial)?	EPA-Yes	Consider
3.6.1.3	3-17	5-12	Using data that is 30 years old is not useful, especially since the region has seen mining operations not only persist over this time period, but also change with new available	EPA-Yes	Several commenter's have complained about not using more recent data. It does exist and

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			technology and new regulations. The cumulative effect of these mines on surface water quality needs to be re-evaluated.		you need to ask OSM for help in locating the data
3.6.1.6.3	3-17	2	"Formulations" should be "formations."	EPA-Yes	Revise
Figure 3.6-7	3-17		This graph needs to be better explained in the text; it is difficult to tell how many unique sites were tested (what is the distribution of sites, how many total unique sites and how many times each site was tested, etc.). What is the meaning of "class" (along the y-axis?) – is this an arbitrary split?	EPA-Yes	Revise
3.6.1.3	3-18	5-6	Does this general directional (NW to SE) have the potential to cross the Eastern continental divide? This should be defined in a narrower context, as in, how does conductivity compare in the head waters towards the mouth of the hollow.		
3.6.1.3	3-19	11-12	Note that while acidity and pH might not be indicators of mine impacts alone, this is not to say that acidity and pH are not results of mining. They should be considered in addition to other metrics, like dissolved sulfate and conductivity.	EPA-Yes	Consider
3.6.1.3	3-19	17-20	Suggest placing this string of numbers in a chart.	EPA-Yes	Consider
3.6.1.6.3	3-19	31-33	Recommend breaking out the discussion of selenium separately. It's distracting when woven into a discussion of TDS/conductivity. Recommend creating a separate selenium section that would also include the discussion on page 3-20.	EPA-Yes	Revise
	3-20	1-20	Any discussion of selenium concentrations in Appalachia is deficient if it does not include specific selenium studies from the interagency PEIS and recent work by the State of West Virginia. Pond et al. 2008 also includes a discussion of selenium impacts downstream, as does Palmer et al. 2010. These papers demonstrate exceedances of EPA's recommended aquatic life criteria (5 ug/L) that have been adopted in all Appalachian states.	EPA-Yes	Revise
	3-20	1-20	This section desperately needs a more specific accounting of the biological effects of increased selenium concentrations (beyond simply stating that selenium is "linked to numerous biogeochemical transformation functions"). Like conductivity, elevated selenium has effects on aquatic communities. EPA's draft MTM/VF impacts report and PEIS studies describe the effects of elevated selenium.	EPA-Yes	This discussion needs be here or make sure it is in the aquatic bio section of the EIS
3.6.2.3	3-25	32-34	Regarding the first two sentences in this paragraph, the EIS	EPA-Yes	Revise

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			should briefly explain, based on the data reviewed, why greater and lower TDS concentrations are located where they are. Regarding the last sentence in this paragraph, the EIS should indicate specifically what "documented studies in the area" have shown increased TDS concentrations due to coal mining.		
Figure 3.6-15	3-30		Legend missing "Temp (deg F)" ; also, replace either Zone B or H with another color.	EPA-Yes	Revise
3.6.4.1	3-32	22-23	Evaporation of 40 inches (per year?) needs to be reconciled with graphic 3.6-18 – either use evaporation or evapotranspiration.	EPA-Yes	Revise
Figure 3.6-20	3-36		Legend missing "Mean Wind Speed (mph)"	EPA-Yes	Revise
3.6.4.3	3-39	14-15	What is the significance of the statement, "It should be noted that lake water quality may reflect mining methods that were prevalent in the 1980s?" Are the mining practices in this region significantly different in scope or effect than they were 20 years ago? Is lake water quality expected to be different currently, or impacted differently using "current" mining techniques? Are there any more recent studies in this region to determine this?	EPA-Yes	Consider
3.6.5.3	3-46	22-24	Were selenium samples for the eastern Powder River Basin taken in mined or unmined areas and in what stream types?	EPA-Yes	Consider
3.6.7.2	3-54	10-13	What is meant by the phrase "unregulated streams," used twice in this paragraph? Unregulated under what statute(s) and according to whom?	EPA-Yes	Revise
3.6.7.2	3-55	5-10	What is meant by the phrase "unregulated streams," used twice in this paragraph? Unregulated under what statute(s) and according to whom?	EPA-Yes	Revise
3.6.8.1	3-60	All	This draft section appears to limit the consideration of surface water quality impacts of underground mining to those associated with subsidence and related to stream flow. Equal attention should also be given to the water quality impacts to surface waters associated with discharges from underground mines, slurry ponds, prep/washing operations, etc. Also, this section needs some context as to which regions of the country experience underground mining, and which do not. Appalachia likely sees the greatest proportion of underground mining and therefore is likely to disproportionately experience	EPA-Yes	OSM agrees with commenter...please revise.

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			the effects described here.		
3.6	-----	-------	General Comment # 1: state mining statutes and regulations emphasize protection of surface water at mining operations as required by federal law no matter where the operation is located (nationally). Impacts from mining, as well as any earth-moving activity, will occur, as reflected in varying levels of TDS, conductivity or other WQ parameter. Given that mining is conducted across the nation (this EIS delineates 7 regions), impacts, too, will occur nationally. If it is OSM's intent to propose rule-making based on the information and identified impacts discussed in this EIS, then proposed rules regarding surface water will be directed toward, perhaps exclusively, to Appalachia, rather than addressing mining impacts nationally. This focused undertone is obviously evidenced by the following: One of the surface water components in this sub-chapter is Water Quality (3.6.1.3, 3.6.2.3., 3.6.3.3, 3.6.4.3, etc.). The discussion of this topic for the: Appalachian Basin contains 14 paragraphs with7 tables and graphs; Colorado Plateau contains 6 paragraphs and 0 tables and graphs; Gulf Coast contains 1 paragraph and 0 tables and graphs; Illinois Basin contains 5 paragraphs and 1 table or graph; N. Rocky Mts. contains 4 paragraphs and 1 table or graph; Northwest contains 3 paragraphs and 0 tables or graphs and Western Interior contains 7 paragraphs and 3 tables or graphs. The Appalachian water quality section targets total dissolved solids, sulfates and conductivity measures and studies. These parameters are rarely mentioned, if at all, in the other regional water quality sections. Since these parameters are often found with earth moving activities, should they not be mentioned in other-region mining discussions? This report seems to infer that these parameters are a negative impact from mining, but only in Appalachia. If high conductivities reflect undesirable water quality in the eastern United States, wouldn't high conductivity in the western United States be also undesirable? The fact that very few studies are cited for the	Ky - Yes	Ky is very clear and OSM agrees that many of the different geographic regions contain very little description. Please contact State or OSM for references of where to find data. While OSM disagrees with the Ky comment that the SPR is exclusive to Appalachia, the lack of information of the "affected environment" makes it seems as such. Please call Brent Means or John Craynon of OSM to help locate additional references for material.

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			non-Appalachia regions does not mean they don't exist. Ignoring the evidence will not make it go away. Another obvious difference between the Appalachia section from the other regions is the inclusion of 3.6.1.2.1. "Mining and Reclamation." This subsection described fill construction, hydrology of mined lands, degree of spoil compaction and rainfall-runoff response in the Appalachian region. However, these topics were not addressed in the other region reports, though those regions may contain fills and certainly mine-run spoils.		
			General Comment # 2: In reference to the studies of water quality (TDS, Conductivity, sulfates), caution should be exercised in the conclusion that mining activities alone result in the values given. Often, sampling points were located far from the mining activity (but very accessible to the sampling personnel) and included impacts from residential, agriculture, roads (and construction) and light industrial facilities. All of these impacts could contribute to TDS and conductivity. This same comment was voiced in the previous 2003 Mountaintop Mining EIS.	Ky, Yes	Just please be advised.
General Comments			Utah Division of Oil, Gas and Mining (UDOGM) has identified some significant deficiencies and errors relating to the characterization of surface water hydrology and the other resources of the "affected environment". These deficiencies are often associated with the incorrect geographical scope originally selected for evaluation of the active coal mining areas in Utah and other parts of the Colorado Plateau coal mining region. For example, the geographic scope omits high-priority Utah coal reserve areas with active mining in the Alton and Kolob coal fields. As a result, the Chapter 3 characterization of surface water hydrology and the other environments and resources described are missing important information and are often incorrect. We have invested serious effort into providing OSM and the contractor with correct information and sources to facilitate the correction of inaccurate statements found in this EIS. Without some serious modifications to the current geographical scope of this EIS as it relates to the Colorado Plateau, any conclusions made in Chapter 4 about impacts to the	UT - Yes	Please provide references for where the material in the EIS is obtained. Please contact Kevin Lundmark (801-538-5320)of the State of UT to acquire additional data and literature to improve the Colorado Plateau section.

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			environment and the coal mining industry in Utah (and other parts of the Colorado Plateau) will be inaccurate. Subsequent decisions dependent on this EIS and affecting Utah and parts of the Colorado Plateau region will be misinformed. In addition to errors noted throughout this section, the hydrology description (3.6.2.2) is so vague that it is difficult to see how it can be of real value for analyzing impacts. The generalizations presented in this section may be correct as written for some area within the Colorado Plateau Region; however, the contractor has not provided references for verification. References are absolutely necessary in this section so that readers may ascertain the subject area(s) for which these generalizations were originally authored.		
Issues Unique to Western States relating to Federal Resources and NEPA			While UDOGM understands that the enormous scope of this EIS may preclude the detailed investigation of resources associated with each coal field in the United States, UDOGM insists that a greater focus on federal coal reserves and resources is essential for adequate NEPA analysis. Proposed federal actions affecting the large federal coal reserves and other extensive federally-managed resources located primarily in the Western United States constitute a significant federal nexus requiring NEPA analysis. As currently written, this EIS does not recognize current and future value of significant federal coal reserves and their associated federally-managed environments.	UT-Yes	
Suggestions to Mitigate Errors			The coal bearing regions shown in figures in the hydrology section and other sections of the EIS do not accurately describe the active coal mining regions in Utah and parts of Colorado. Refer to USGS Professional Paper 1625-B (2000) to understand why the existing affected environment boundaries are unrepresentative of Utah coal mining. UDOGM recommends that the authors strongly consider adopting geographic boundaries used by the USGS in their Open File Report series for evaluating coal province hydrology and for other resources. These reports were expressly written with SMCRA and federal coal leasing in mind, and they accurately characterize Utah's active coal mining areas, unlike the current EIS scope boundaries for Utah and Colorado.	UT – Yes	Ut is providing references that need to be used in the EIS for sources of information.

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			• Water Resource Investigations Open-File Report 84-068 • Water Resource Investigations Open-File Report 83-38 Other USGS reports in this series cover Colorado and New Mexico coal fields.		
3.6.0	3-1	13-20	The generalities stated in this introductory paragraph may apply to Appalachia, but do not apply to Utah. Their relevance to other western states is also in question. The "current interest in specific conductance with respect to impact on specific biota" relates to Appalachia. DOGM is unaware of similar research into conductivity-based water quality criteria relative to biota in the western U.S. Acid mine drainage from coal mines has not been a problem to date in Utah; however, alkaline mine drainage containing total iron concentrations exceeding water quality standards is becoming a problem for some Utah underground coal mines (Crandall Canyon Mine, possibly Deer Creek, others). **This is an issue that should be addressed by this EIS, at least for the Colorado Plateau.** Because total-Fe contamination is an emerging problem in Utah, iron concentrations associated with Utah coal mining are not well documented. As noted in lines 2 and 3 on p. 3-2, "...there are few peer-reviewed studies of hydrology and water quality associated with coal mining within the last two decades." This describes the status of knowledge on alkaline mine drainage containing moderate concentrations of iron (1 mg/L to 5 mg/L), and relatively few case studies are available concerning treatment processes for this type of coal mine drainage in the western US.	UT-Yes	OSM agrees. While conductivity has been a large issue in the East, it shouldn't dominate the EIS and Western water quality issues, like alkaline mine drainage in UT, need to be discussed. Please contact UT for information or contact Brent Means of OSM.
3.6.0	3-1	16-20	See previous comment for content concern with these statements. This is a grammatical comment: "Iron and manganese ~~concentration~~ concentrations associated with mining are well documented in other publications, have been regulated since the inception of SMCRA and treatment processes are well understood. Also, acid mine drainage has been researched for over thirty years and therefore	UT-Yes	Revise

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			geochemistry, overburden analysis, influence of geology, special handling and treatment processes are well ~~document~~ documented (PADEP, 1998)."		
3.6.0	3-1	13-15	Modify the text as follows: "Due to the current interest in specific conductance with respect to impact on specific biota in Appalachian streams, both specific conductance and total dissolved solids (TDS) have been emphasized along with contributing constituents of sulfate and bicarbonate. Increased TDS resulting from coal mining operations can be problematic for all mining regions."	UT-Yes	Revise
3.6.0	3-1	20	Add the following text: "Alkaline mine drainage containing moderate concentrations of iron has not been well documented, and relatively few case studies are available concerning treatment processes for this type of coal mine drainage in the western US. Both AMD and Alkaline Mine Drainage pollute surface waters and may require long-term water treatment. OSM is pursuing rulemaking to require bond coverage for long-term treatment of pollutional mine drainage."	UT - Yes	Please consider adding information about alkaline mine drainage in UT since they've provided the information.
3.6.0	3-2	3-4	"Only very limited ~~funding through~~ federal, state and industry funding has been directed towards such applied research..."	UT - Yes	Revise
3.6.0	3-2	15	"The primary controls ~~consists~~ consist of water conveyance by..."	UT - Yes	Revise
3.6.0	3-2	20-21	Does this make more sense without the closing parenthesis after 'methods'? Is this saying that embankment ponds – and no other type of pond - are always used at the toe of 'conventional lift-type valley fills, head of hollow fills and durable rock fills'? "...(used throughout **[all?]** mining methods**[ ) ?]** and always near the toe of conventional lift-type valley fills, head of hollow fills and durable rock fills)."	UT-Yes	Please consider
3.6.0	3-2	24	"The hydrologic analysis for probable hydrologic **[consequences?]** determination traditionally emphasized only..."	UT - Yes	Revise
3.6.0	3-2	27; 34-37	Insert the following sentence after the first sentence: "Modeling packages, such as SEDCAD (Warner, 1998) and design procedures such as SWROA (Reference) are commonly used for hydrologic analyses." Delete this paragraph (lines 34-37) and include a reference to	UT - Yes	Revise

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			modeling at line 27. As written, the paragraph implies that SEDCAD is the primary program used by industry and consulting firms and there is no reference cited for this statement.		
3.6.0	3-2 and 3-3	38-40 and 1-2	Parentheses within parentheses; rewrite – suggestion: "It should be noted that in other large-scale land disturbance activities and in mines that ~~emphasis~~ emphasize sustainable mining practices: [colon] ~~that~~ simply addressing peak flow is not considered sufficient. The attempt is made throughout all phases of mining and reclamation to match the pre-mining hydrologic regime: peak flow from various return period storms, runoff volume, seasonal flows, and hydrology shape (runoff temporal distribution). ~~and that the pre-mining hydrologic regime (peak flow from various return period storms, runoff volume, hydrology shape (runoff temporal distribution) and seasonal flows) is attempted to be matched during active mining and throughout all phases of reclamation.~~"	UT - Yes	Revise
3.6.2	3-20	21	This section needs an introductory paragraph clearly defining the potentially affected environment which this surface water hydrology section is attempting to describe. Are the contractors attempting to describe the coal fields within the Colorado Plateau region (shown as stippled areas on Figures 3.6-9 thru 3.6-12), or the entire Colorado Plateau? This is a major distinction and has a great effect on the following discussion in this section.	UT - Yes	Revise
3.6.2.1	3-20	27-28	**Correction:** "Mean annual precipitation ranges from ~~about 10 to 16~~ less than five inches in the arid ~~semi-arid~~ basins to..."	UT - Yes	Revise
3.6.2.1	3-20	29-30	This doesn't sound right, at least not for coal producing areas of Utah; winter is the wettest season at almost all locations and elevations. "Seasonally, the semiarid lower elevations receive more precipitation during the **summer [winter?]**, whereas the mountains areas receive precipitation more uniformly throughout the year."	UT - Yes	Revise
3.6.2.1	3-20	31-33	"Winter precipitation is almost entirely in the form of snowfall associated with large **storms moving from the west or northwest** and is **highly influenced by orographic effects (see Figure 3.6-10)**." Delete reference to Figure 3.6-10, as this figure does not illustrate orographic effect, nor the	UT - Yes	Revise

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			direction or effect of storm paths.		
3.6.2.1	3-20	34	Recommendation: "...the rainfall associated with these storms seldom exceeds one inch, although these convective thunderstorms are capable of generating localized flash flooding."	UT - Yes	Revise
3.6.2.1	3-20	36-37	Figure 3.6-12 (mean annual temperature) does not relate to or support the description of mean summer and winter temperatures. We recommend that you correct the statement made in the last sentence of section 3.6.2.1, and that you replace Figure 3.6-12 with a set of figures showing average daily temperatures during the summer and winter. Average daily temperature in the summer exceeds 40 degrees. It is unclear whether this is an attempt to summarize the climate for the entire four-state area (AZ, CO, NM, UT) or just for the hatched coal regions within the Colorado Plateau province (which regions are not accurate in describing active coal producing regions in parts of Utah and Colorado).	UT - Yes	Revise
3.6.2.1	3-22	Figure 3.6-10	Does wind speed significantly relate, for the purposes of this study, to the surface water hydrology of the Colorado Plateau coal region? Consider deleting this figure.	UT - Yes	Revise
3.6.2.1	3-23	Figure 3.6-11	Please check and correct the values reported in this figure. The legend indicates that mean annual evapotranspiration (ET) ranges from 0 to ~6.7 inches; however, all areas are shown to have less than 6 inches of ET. Mean annual evaporation (class A pan) ranges from 40 to 80 inches in the southern coal fields of Utah (USGS Open-File Report 84-068). These coal fields are not included within the current scope of the Colorado Plateau region, but should be, because a newly-permitted coal mine is expected to start producing within a few weeks.	UT - Yes	Revise
3.6.2.2	3-24 to -25	General	General comment: The hydrology description is so vague that it is of little to no value. Specific suggested edits are provided in an effort to make this section at relevant for Utah. The generalizations presented in this section may be correct as written for some area within the Colorado Plateau Region; however, the contractor has not provided references for verification. References are absolutely necessary in this section so that readers may ascertain the subject area(s) for	UT - Yes	Both UT and KY commented that the surface water hydrology sections are lacking a description for most of the geographic regions outside of Appalachia.

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			which these generalizations were originally authored.		
3.6.2.2	3-24	4 - 5	Revise text to make it accurate for Utah hydrology: "Most annual streamflow at higher altitudes is from snowmelt runoff during late spring and early summer; ~~irrigation diversions affect streamflow during the summer growing seasons~~. The average flow of streams originating in higher altitudes generally increases downstream. However, when these streams flow through low altitude areas, additional inflow may be less than losses to infiltration, evaporation, and diversions (e.g., irrigation), therefore average flows may decrease downstream (USGS OFR 83-38, USGS OFR 84-068)."	UT - Yes	Revise
3.6.2.2	3-24	5 - 7	Provide a reference and revise text: Natural streamflow variations between basins result primarily from differences in basin ~~physiographic and other physical characteristics, such as~~ physiography, climate, altitude, vegetation, and geology (Reference needed).	UT - Yes	Revise
3.6.2.2	3-25	1 - 2	Add the following text: ...influence on stream flow variations through diversions for irrigation and use of water for livestock and domestic purposes, or by the discharge of groundwater encountered by underground coal mining.	UT - Yes	Revise
3.6.2.2	3-25	3 – 6	This sentence may (or may not?) be appropriate for the mines located in Western Colorado, but it does not accurately describe conditions in Utah coal fields. Again, the inaccurate geographic scope of this document causes hydrologic resources in coal mining regions in Utah (and in Colorado as well) to be incorrectly characterized. Consider the USGS Water Resource Investigations Open File Reports 84-068 and 83-38 for hydrologic information about Utah's active coal mining areas, including geographic boundaries proposed by DOGM for a scope representative of active coal mining areas. Other USGS reports in this coal province hydrology series cover Colorado and New Mexico coal fields. These reports were expressly written with SMCRA in mind. What is meant by "western part of the area?" It appears that this could be carry-over from copying and pasting text from an unreferenced document.	UT - Yes	Revise

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			Revised text to make it accurate for Utah hydrology: "Many coal mines perform mining activities~~are~~ in ephemeral stream basins. ~~; most~~ Some of these streams receive the majority of their average annual discharge from snowmelt, ~~although~~ while others flow only in response to storm events such as local thunderstorms which ~~also~~ may result in flash-flooding and contribute a significant proportion of the annual discharge in isolated events. ~~especially on streams in the drier western part of the area.~~"		
3.6.2.2	3-25	10	"$_{is}$" needs to be changed from $_{subscript}$ to normal script. "...miles; $S_{t\,ie}$ is area of lakes and ponds, as a percentage of drainage area (plus 1 percent); P is average..."	UT - Yes	Revise
3.6.2.2	3-25	7 – 12	A reference is necessary for this regression equation, as well as a description of the area for which this equation was developed. If this equation is intended to cover the entire Colorado Plateau, then state so.	UT - Yes	Revise
3.6.2.2	3-25	12 - 13	**Insert the following text:** For the Wasatch Plateau and Book Cliffs coal areas in Utah, annual discharge may be estimated as: $Q = 0.000054\ A^{0.81}\ P^{3.02}$ Where Q is the average flow in cubic feet per second, A is the drainage area in square miles, and P is the normal annual precipitation for the drainage in inches from the 1963 U.S. Weather Bureau precipitation map of Utah (USGS OFR 83-38). An analogous equation is available for the Kolob and Alton coal field of Utah (USGS OFR 84-068): $Q = 0.000079\ A^{0.76}\ P^{2.91}$ In addition to the equations above, the USGS has also developed regional regression equations for estimating monthly and annual streamflow statistics for ungaged sites in Utah (USGS Scientific Investigation Report 2008-5230), and the magnitude and frequency of peak flows for natural streams in Utah (USGS Scientific Investigations Report 2007-5158). The 10-year recurrence flows for ungaged streams may be	UT - Yes	Revise

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			calculated using regional regression equations which relate flow to geographic area, drainage area, mean basin elevation, average basin slope, and/or percent upland area covered by herbacious plants (USGS Scientific Investigations Report 2007-5158)."		
3.6.2.2	3-25	13 - 16	What is meant by "eastern part of the area?" Delete reference to "eastern part of the area" and revise text as follows: "Streams in ~~the~~ mountainous regions generally have a greater average annual flow per square mile than streams of the same order in ~~the~~ semiarid regions ~~. This difference is~~ due to the ~~effects on streamflow of the mountains from which most streams in the eastern part of the area flow. The major effect of the mountains is to change the~~ altitude-precipitation relation at higher altitudes."	UT - Yes	Revise
3.6.2.2	3-25	14-16	"...This difference is due to the effects on streamflow of the **mountains** from which most streams in the eastern part of the area flow. The major effect of the mountains is to **change the altitude-precipitation relation** at higher altitudes." Referring to the excerpt quoted above, what mountains are you referring to? Are you referring to hatched coal-bearing areas of the maps when you discuss eastern and western areas? If so, please specify. Streams in the **western** part of Utah's coal producing areas also flow from mountains. This omission is an example of how the original geographic boundaries defining the scope of this EIS are inadequate for analyzing coal producing regions of the Colorado Plateau. Also, explain how the mountains effect the altitude-precipitation relation.	UT - Yes	Revise
3.6.2.2	3-25	17	Delete the sentence "Melting snowpacks and reservoir releases also help augment low flow on some streams", as this information is duplicated in the following sentence.	UT - Yes	Revise
3.6.2.2	3-25	20	Revise the text: "Most peak flows in perennial streams occur in the spring months as a result of snowmelt or rainfall runoff with snowmelt."	UT - Yes	Revise

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3.6.2.3	3-25 and 3-26	The whole section	This section needs a discussion of water quality in the Utah Coal Fields	UT - Yes	Revise
3.6.2.3	3-25	22	This section should not be specific to northern Colorado.	UT - Yes	Revise
3.6.2.3	3-25 to 3-26	p. 3-25 lines 22 – 25, 35-39 and p. 3-26 lines 1 - 2	UT - Yes	Revise	Revise
3.6.2.3	3-25	32	"Regionally, dissolved solids concentrations are generally greater **west of the mountains**." What mountains does this quote refer to? There are numerous mountain ranges in the Colorado Plateau.	UT - Yes	Revise
3.6.2.3	3-25	32-33	Revise text: "Regionally, dissolved solids concentrations in streams are related to geology. ~~generally greater west of the mountains. The~~ Lower dissolved solids concentrations are generally found in ~~the~~ mountain~~s~~ areas, with dissolved solids increasing as surface water flows into semi-arid valley areas. Contact with geologic formations with high content of soluble minerals (e.g., the Mancos shale) can drastically increase the dissolved solids concentrations in streams."	UT - Yes	Revise
3.6.2.3	3-25	33 - 34	Please provide references for the "documented studies in the area" that "have shown that dissolved solids concentrations increase due to coal mining". Studies addressing the effect of coal mining on dissolved solids concentrations in Utah include the USGS Water-Resources Investigation reports 87-4186 and 90-4084.	UT - Yes	Revise
3.6.2.3	3-25	34	Add the following text to address (at least partially) an important omission:	UT - Yes	Revise

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			"Most coal mining areas within the Colorado Plateau coal region lie within the Colorado River basin. Dissolved solids in streams draining or crossing coal mining areas may contribute to salinity in the Colorado River. The Colorado River and its tributaries provide municipal and industrial water to about 27 million people and irrigation water to nearly four million acres of land in the United States. The river also serves about 2.3 million people and 500,000 acres in Mexico. The threat of salinity is a major concern in both the Unites States and Mexico, as salinity affects agricultural, municipal, and industrial water users. (Bureau of Reclamation Salinity Control Program, http://www.usbr.gov/uc/progact/salinity/ accessed 10 November 2010)."		
3.6.2.3		General	Add the following text: "All surface water discharges from coal mines in Utah occur under UPDES permits, the State's program for implementing the NPDES under the CWA. UPDES permits include monitoring requirements and effluent limitations for parameters such as pH, total iron, manganese, TDS and total suspended solids (TSS). The allowable TDS concentrations for discharges from coal mines are a function of the general background levels in the receiving streams."	UT - Yes	Revise
3.6.2.3	3-25	36-38	"In areas of coal mining, buffering capacity is an important consideration because sedimentary rocks associated with coal deposits and the coal itself commonly ~~contains~~ contain pyrite and other sulfide minerals."	UT - Yes	Revise
3.6.8	3-59	2-3	In Utah, where mining often occurs at extreme depths and in certain geologic environments, longwall mining often induces no significant subsidence. The inherent assertion that subsidence always "damages the land above and adjacent to the mine" is also very incorrect. This sentence should read: "Underground mining, over time, usually results in some level of subsidence, which **may or may not** damage~~s~~ the land above and adjacent to the mine. Subsidence varies with mining method, mining depth, and geology of the overlying strata."	UT - Yes	Revise as suggested and note that the regional differences in the surface effects from subsidence.

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			Also, what is the damage observed?		
3.6.8	3-59	14	Subsidence cracks have been observed on the ground surface in areas where overburden ranges from 800 to 900 feet thickness (USGS Water Resource Investigations Report 87-4186)	UT - Yes	Revise
3.6.8	3-59	15-16	"The effect from underground coal mining on hydrologic systems can range from none ~~minimum~~ to severe"	UT - Yes	Revise
3.6.8	3-59	37	"As the strata ~~settles~~ settle and ~~becomes~~ become re-compressed,..."	UT - Yes	Revise
3.6.0	3-1	20	Spelling "...are well documented..."	Va Yes	
3.6.0	3-1	21	Spelling "...chapter are refereed journal..."	Va Yes	
3.6.0	3-2	38-39	Reword the following "...land disturbance activities and in mines that emphasis sustainable mining practices..."	Va Yes	
3.6.0	3-2	38	This sentence implies that "other" mining and large land disturbing operations take additional measures for peak flow attenuation/matching. What are these measures and does this statement suggest additional measures are necessary for coal mining? If so, this statement should more clearly state that these. This statement does not take into consideration the scale of the mining operations or even the type of mining operations. In Virginia where most mining is remining often sediment control basins are relatively small on bench basins that never discharge. There is no affect on peak flows from these type basins or often small embankment basins. There is considerable difference between a 2,000 acre mountaintop removal mine that may have a 40 million yard valley fill and a 125 acre second cut contour mine or highwall miner operation. This statement is too broad. The statement also implies that any change in peak flow is adverse; that is incorrect. It is the scale of the peak flow increases that would matter. A relatively small rainfall event may have a small peak flow increase that does not even become a bank full event. How is that adverse?	Va Yes	
3.6.1.2	3-8	7	Why was only data from stream gauge stations in Pennsylvania, Maryland and West Virginia used? This data is readily available in the other states. Throughout the document	Va Yes	

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			it is apparent that no data from Virginia was used to develop this EIS and as such how can it even be considered as being valid for mining in Virginia.?		
3.6.1.2	3-8	16-18	The narrative below Figure 3.6-5 states "It is worth noting that the results from the curve can be subject to large errors if data from a stream with a drainage area greater than 90 mi^2 or a stream outside of the study area is used." This is an answer to the question posed in the comment above. This data is not valid for any mining operation in Virginia.	Va Yes	
3.6.1.2	3-8 – 3-11	all	Same comments as above no Virginia, Tennessee, Kentucky, etc. data is used.	Va Yes	
3.6.1.2.1	3-12	19-20	Tense "The description and sequence of surface mining methods is ...and consists..."	Va Yes	
3.6.1.2.1	3-12	25	No rock chimney drains are used in Virginia. Is this term intended to be something else?	Va Yes	
3.6.1.2.1	3-12	30 - 34	In Virginia for 2008 and 2009 the permits that had forestry as a post mining land use had 100% FRA requirements.	Va Yes	
3.6.1.2.1	3-13	24-36	This paragraph makes several statements regarding hollow fill effects on stream flow without qualifying the fill size, construction characteristics, type of rock in the fill, or placement of the fill within head of hollow/ephemeral reaches, intermittent reaches or perennial reaches of streams. Each of these characteristics of the fill heavily influence whether stream flows will be affected. These items should be addressed in the narrative.	Va Yes	
3.6.1.2.1	3-13	24-36	There is no mention in this section of the influence of abandoned deep mine discharges on water quality and whether the effects of abandoned deep mine discharges were considered in the stream quality studies.	Va Yes	
3.6.1.2.1	3-13	24-36	There is no mention in this section of the influence of pre-SMCRA mining on existing water quality.	No duplicate of comment above	
3.6.1.2.1	3-13	27	Tense "The water that does migrated into the fill enters..."	Va – Yes	Revise
3.6.1.2.1	3-13	28	Water only enters the fill from coal seams if in fact the fill is placed over mined coal seams and then only where the dip of the coal is toward the fill. This reads like water will always enter the fill from the coal seams all the way around the valley. This is not true. If the coal seam is dipping in toward the	Va - Yes	Please consider rewording to make clearer

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			mountain away from the fill then no water (or very little water) will infiltrate into the fill.		
3.6.1.2.1	3-13	32-36	This should be better explained. Very large fills can attenuate peak flows by holding or storing water in the fill and releasing it over time thus converting intermittent streams into perennial or near perennial streams. The last sentence in this paragraph is too broad based. This is not always the case. In Virginia there are valley fills that are relatively small. For example between January 1, 2000 and August 17, 2009 327 new valley fills were permitted in Virginia. Of these54 were 100,000 cubic yards (cy) or less with the smallest being 2,000 cy. 206 of the 327 fills were for 1,000,000 cy or less.	Va-Yes	Please revise
3.6.1.3	3-13	40	It is ridiculous that only ten sites were used for TDS and Specific Conductance. There have been numerous studies and numerous sites evaluated for these parameters and some were over time. This is a too limited data set to be meaningful	Va-Yes	Please consider. Va made this comment so they should be able to provide references, if needed.
3.6.1.3	3-14	5 - 9	The draft states that the Specific conductance ranged from 10 to 26,000 µS/cm but Table 3.6-6 shows a maximum dissolved solids value of 892 mg/L. The 26,000 µS/cm should have a dissolved solids value higher than the maximum of 892 mg/L shown in Table 3.6-6. Is the 26,000 µS/cm correct? It would be helpful to list the dissolved solids *v.* the conductivity in a table as there are only ten sites were sampled.	Va-Yes	Please add the data, if present
3.6.1.3	3-15	1	The validity of Figure 3.6-6 is highly questionable given the limited data set. Were any Virginia sites sampled? The correlation between Dissolved Solids and Specific Conductance is questionable. It appears to be much higher than that usually shown in more extensive studies. Correlations of less than 0.70 are normally used; not 0.79 as shown in Figure 3.6-6.	Va - Yes	Make sure the applicability of the data set is described as well as the source States used to develop the data set
3.6.1.3	3-13 – 3-20	all	No Virginia data is included. Virginia Tech has published research in this area with more extensive and relevant data than is found in this document. Virginia Tech research indicates that the problematic ions in TDS/Conductivity are sulfates and bi-carbonates. Research shows that benthic communities in the Virginia coalfields are not affected at the levels proposed by the U.S. Environmental Protection Agency but rather at higher levels. The preliminary research shows that weathered spoils have lower TDS/Conductivity and thus lower sulfates and bi-carbonates Proper spoil handling	Va - Yes	Please consider this comment. If you are not familiar with the VT data, please let OSM know or directly contact the State of Virginia

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			techniques can address much of this problem area similar to spoil handling of acidic spoil in mining. Why was a literature search not performed and data specific to each state used? Depositional geology in Virginia is markedly different than that of West Virginia.		
3.6.1.3	3-19 3-20	all	As far as selenium goes again no Virginia data is used. Depositional geology in Virginia is markedly different than that of West Virginia	Va - Yes	Make sure that explanations and analyses developed from data sets from one State is not applied to explain the situation in other States where data sets are not used or developeda
3.6.8	3-59	15	...can range from minimal to severe...	Va – Yes	Please consider comment

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	GENERAL COMMENTS
Contact Information	
Name	
Telephone Number	
Email	mcalle@osmre.gov

Section	Page #s	Line #s	Comment	Author	Incorporate (Yes/No)	Proposed Disposition
General			This entire chapter is hard to read, with many references that are not consistent and/or hard to make sense of. As I understand this, it should be written for the public, assuming that they do not have a scientific background, right?	Mychal Yellowman	No	Due to the scope, subject matter and technical content of the EIS some discussions may be considered advanced but is required to adequately describe to the environment and possible impacts. Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
General			Throughout this chapter, when "Federal, State & Local" terms are used, they need to include Tribal as well.	Mychal Yellowman	Yes	Apply changes per comment.
General			When discussion landowners & federal lands, don't forget to include "Indian lands" or "tribal lands" as they are not the same as all federal lands.	Mychal Yellowman	Yes	Apply changes per comment.
General			It would be helpful if references for all tables were cited on the table.	Mychal Yellowman	Yes	All tables will be referenced where necessary.
General			It seems one important effect of the various alternatives was completely bypassed: that being the effect of each on the cost per quantity of BTUs for steam and met coal. Other economic effects were considered, so why not this one.	Mike Richmond	Yes	The production and economic effects of alternatives with respect to met coal will be considered in the EIS.
General			Implying that visual resources necessary to eliminate mountain top mining in Appalachia are appropriate	David Best	No	A disposition cannot be determined because context (section, page, line) is not defined.

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			across the country is not a useful approach to this subject. When in the flatter terrain of the Illinois Basin, one cannot see the site until one is on the mined area. Where the top recreational activity in wilderness areas cited in Chapter 3 was wildlife viewing, many people enjoy hunting which requires more open areas within the forests.			
			As this EIS is supposed to be about 8th grade reading material in plain (clear & concise) English, I would suggest having family members, a high school student, or clerical staff w/o a PhD in English or engineering read the final version of chapters 2 & 4 to assure it is indeed readable. Chapter 2 is terribly difficult & confusing to read and as a result nothing stands out in this chapter about what was reviewed or why choices were made. During my review of chapter 4, I have had to go back & reread sections of chapter 2 each time to understand the referenced alternatives supposed "explained" in that section of this draft EIS. Obviously a DRAFT, spellcheck not run, comments still inserted and incomplete sentences remain in the current version. Specific comments on chapter 2. As w/ my comments on chapter 3, there are no or limited trees in much of the mid-west & west/sw part of the US, yet section 2.4.10 & all subsequent sections related to revegetation continue to predominantly refer ONLY to reforestation of lands to the exclusion of all else. Because this EIS is to	Karen Jass	No	Comments are not applicable to Chapter 4. Opportunity to comment on the Preliminary Draft EIS including Chapter 2 will be forthcoming.

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			consider potential nationwide affects from changes to coal mining practices, this section must consider and address soil and plant types, regardless of when European immigration & settlement occurred (NRCS website, as Climax Native Plant Community not defined in text). Also – the preferred definition of material damage to hydrologic balance specifically states it prohibits impacts to a stream of mining, including subsidence. Yet there is no further discussion about the direct effects or impacts from subsidence. Specifically how can the preferred alternatives in "Activities In or Near a Stream" and "Mining Thru Streams (or UNDER)" not directly consider the effects of underground mining – they certainly can be within 100' of the stream and will most probably negatively (at least in the short term) have an effect. As an engineer I consider all of these tied together with the ultimate effect of mining on the gravity, resultant stresses and geology, resulting in the subsequent and direct effect to the hydrologic system. Page 2-30 Section 2.5.5.8, Line 24 – "# " which alternative? Section 2.5.5.9, Line37 – "# "- which alternative? Chapter 2 uses "Alternative #2", whereas chapter 4 uses "Alternative 2". Lack of consistency.			
			Aside from typos (spell check needed), this is easier to read than chapter 2. HOWEVER, there are so many topics/subjects just missing!	Karen Jass	Duplicate	All Elements included in the range of alternatives must be described relative to their potential impact on the resource areas. Deficiencies in clarity, conciseness and required level of detail have been

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			With so many individual elements lumped under each alternatives, it is hard to decipher which may have more pull over the poteneial affects or if there are potential conflicts between these multitude of elements. Almost too much lumped in these sections to analyize the affects. I am afraid of what is missing and has not been considered – I have so limited time I can only review the sections assigned. This is scary.			noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve prior to finalization.
All	Relevant	Tables	*Re-space so tables aren't split on 2 pages.*	Karen Jass	No	All formatting deficiencies will be corrected prior to finalization.
All			*The current or recently published numbers for things like acres disturbed or employment are known; however, there is no explanation provided for all the projected numbers and percent change for things like acres to be affected or lengths of streams to be affected in a particular region under a specific alternative.* *Please provide a brief explanation in the 2nd section, which would suffice for all subsequent sections, describing how these numbers were determined.*	Karen Jass	Yes	The final document will provide a greater level of detail regarding the assumptions and methodology used to generate coal production and predicted effects under all alternatives.
			No discussion of the impact of establishing trust funds for treatment of long term pollutional discharges. Would seem to be decrease in capital available to companies to invest in future mining; decrease in postmining discharges as funding stream for treatment would be available long term. I understand that the revisions to performance bonding elements are expected to be a part of each of the alternatives and	Courtney Shea	No	SEE - 2.6 PRINCIPAL ELEMENTS CONSIDERED BUT NOT FURTHER ANALYZED 2. These Elements do not have an identifiable 4 impact on the environment, and there are no discernable differences in how these Elements would be included as part of the Proposed Action or any other Option or Alternative.

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			that while bonding may be addressed in the proposed rulemaking, detailed analysis within the EIS is not fully required.			
			Why is effect to coal mining operations and production the foremost consideration of this EIS? Apparently, shifts in coal production are used as a proxy for estimating environmental effects. This approach seems problematic as it suggests that any environmental benefit associated with the proposed rule change would result from the cessation of mining, and does not account for any positive effects associated with the continuation of mining under new regulatory requirements. On the whole, the discussion of impacts cast the alternative reviewed in a negative light. Potential, and sometimes speculative, socio-economic impacts were discussed in great detail, while potential environmental benefits were ignored or given cursory acknowledgment. At worst, portions of the analyses suggest advocacy against additional regulatory requirements proposed in the alternative. There was no consistent organization of impact analyses throughout the section.	Arthur Kleven	Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
Overall comment			All determinations contained in the DEIS need to be explained and supported by information to be contained in the administrative record. As drafted, there are numerous statements that are conclusory and do not appear to be explained, many of which are key elements of the DEIS (see below) and would be vulnerable to challenge absent detailed explanation.	Dana Jacobsen	Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
Overall comment			The description of the proposed action and the analyses of alternatives in the DEIS needs to be better integrated. In the event DOJ needs to defend the EIS having a fully integrated document will assist in defense of the case. For example, examining just alternative 4.4 was very difficult because it was unclear what the alternative included--a simple	Dana Jacobsen	Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.

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			summary of the alternative to refresh the reader's memory in section 4.4 would be extremely useful.			
Overall comment			Recommend that the agency better describe the categories of resources that will be examined in the analysis of alternatives. The structure is confusing, and I believe this to be the case because the first category of impacts evaluated is styled as "Coal Resources and Mining" which is an activity/action, and not a class of resources.	Dana Jacobsen	No	The resource categories have been chosen based upon provisions of the alternatives and potential significant impacts to these resources. Material contained in the Coal Resources and Mining sections predicts how alternatives will affect coal extraction methods and minable coal resources. The presented resources areas are consistent with EIS format.
Overall comment			It appears the environmental consequences section evaluates a particular alternative in comparison to other alternatives without the requisite examination of environmental impacts. I recommend that chapter 4 first evaluate in detail the environmental consequences of the alternatives, and then have a separate section of the DEIS compare and contrast the alternatives.	Dana Jacobsen	Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
Overall comment			It appears there is a disproportionate analysis of the socioeconomic impacts of the alternatives--there is significant detail about economic, health and other areas. It appears there is a lack of attention to other impact areas.	Dana Jacobsen	Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
General Comment			The Agency should provided detailed explanation about the method it used to assess how the proposed rule may impact coal production because it appears to serve as the metric the agency uses to assess alternatives (especially related to surface water quality). The record should contain a clear explanation of the method, and all public comments concerning the method should be addressed very carefully.	Dana Jacobsen	Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
All	All	all	Any place that discusses the requirement to salvage topsoil or revegetate with native species must reviewed and update as necessary to reflect the discussion regarding the current regulatory requirements listed above.	Bob Postle	Duplicate	This comment has been acknowledged under the applicable resource area and will be applied comprehensively.
All			Without a full list of works cited it very difficult to identify and verify the interpretation of the materials referenced	Nick Grant	No	A full list of cited/referenced works will be included in the final document.

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General comment #1			With the exception of Alternative 4, I find the report confusing and difficult to follow. I thought Alternative 4 was well written and well prepared. I found it much more informative, concise, and easier to follow than the other alternatives.	DD OSM Hydro Team	Yes	The EIS Team concurs with inconsistencies of writing clarity and conciseness and will address this comment prior to finalization.
General comment #2			Unless I missed it, the anticipated impact of the proposed stream definitions was not discussed in any of the sections (except 4.4.1.1).	DD OSM Hydro Team	Yes	The EIS Team concurs with the deficiency described and will address as appropriate prior to finalization.
General comment #3			Throughout this chapter, references are made that a particular component (e.g. recharge rates) will be more in Alternative X as compared to Alternative Y but less than in Alternative Z. This is part of what makes this chapter so confusing. For clarity, it would be helpful to state briefly why this impact will be different (e.g. "will be more in Alternative X because of reduced infiltration rates as compared to Y since....," etc.).	DD OSM Hydro Team	Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
Overall			Chapter 4 is intended to be a comprehensive document specific to a regulatory approach to be employed across the nation. As outlined in numerous comments, the logic behind many aspects of Chapter 4 is not readily apparent and appears in many cases to be based upon erroneous assumptions, incorrect interpretations, and a lack of understanding of current programmatic practices one region to the other. Based upon these factors, and a lack of information concerning much of the stated narrative, Indiana cannot provide the substantive comments necessary for an issue of this importance. Many factors discussed such as the need for additional data measurements concerning chemistry and biology and significant regulatory reform concerning stream form and function are not provided in a manner that demonstrates or justifies need. We remain unaware of studies relevant to the Illinois Basin supporting the	(Indiana DNR, Bruce Stevens)	Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.

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			need for such wide sweeping regulatory changes. Our comments in no way should be construed to infer any concurrence with the content of the document or policies that may result from this process.			
GENERAL	ALL	ALL	Much of Virginia's and other Appalachian Basin coals are high quality metallurgical grade. This metallurgical grade of coal can not be replaced by coal from the Northern Rocky Mountains and Great Plains Region. Coal production in the southwestern Virginia coalfields is the primary engine that drives most of the economy in that region. Mining jobs are among the highest paying jobs in Southwest Virginia and many small businesses depend upon coal companies for the bulk if not all of their business. Coal mining provides jobs through direct, related support industries and other indirect businesses such as retail businesses. Coal mining plays a major role in opening up area for development for counties in that region. The terrain of southwest Virginia consists of narrow valleys with steep slopes. Naturally occurring flat ground typically occurs in the flood plain of these valleys. As an example the Town of Grundy in Buchanan County just underwent a major construction project to relocate businesses outside the flood plain of the Levisa River. This project was undertaken by the U.S. Army ACE of Engineers (ACE). The Virginia Coalfield Economic Development Authority works closely with the respective county Industrial Development Authorities and coal companies to locate and acquire reclaimed level land for industrial development. A prime example of this is the Buchanan County Southern Gap Business Park Project. This is a multi-use site with a four lane highway running through it that connects to the Buchanan County Park which is on reclaimed mined land as well. OSM's proposal to not defer to local regulations and conditions for AOC exemptions and	(Bradley Lambert, Virginia DMME)	No	The comment lacks specific detail regarding deficiencies of the EIS content and or format. The comment addresses concerns regarding the provisions of the alternatives. An EIS must evaluate a reasonable range of alternatives.

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			post mining land use needs are inappropriate and highly objectionable. OSM's proposed rule making on "stream protection measures" appears to be headed in a direction that will jeopardize the coal mining industry in Virginia. This proposed rule making will almost completely revise the Surface Mining Control and Reclamation Act (SMCRA) of 1979 and undo over 30 years of progress in developing a regulatory framework in which primacy states such as Virginia administer a state specific program approved by the Secretary of the Interior that is as effective as and no less stringent than the federal program. A major part of SMCRA is the intent to promote remining in order to achieve reclamation of pre-law mining environmental problems. As these are low priority sites for the Abandoned Mined Land. (AML) program and will never be reclaimed under that program it is imperative that remining not be hindered by this rule making. As nearly all surface coal mining in Virginia involves some remining including the use of no cost AML projects where mining companies reclaim AML features adjacent to permitted active coal mining sites. OSM's annual oversight reports for Virginia have not identified any problems that would necessitate such a drastic rule making. Proposals in the OSM draft Environmental Impact Statement (DEIS) preferred alternatives such as not allowing a mine through of a stream or drain ways are troubling. The requirement that before a stream or drain way could be mined through there must be a demonstration made by the applicant that the stream form and function can be restored and that a premining impaired condition of a stream would not be accepted as the standard of measurement of success flies in the face of the Clean Water Act Rahall Amendment which authorizes the discharge of impaired waters from reclaimed remining			

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			operations as long as it is as good or better than the premining baseline water quality. OSM does not have the statutory authority to over ride Clean Water Act provisions such as the Rahall Amendment. The proposed rule contains numerous sections that states OSM does not intend to utilize Clean Water Act provisions. For instance in the preferred alternative for stream definition OSM's DEIS preferred alternative states "This Proposed Action does not follow ... Alternative #4's reliance on the CWA definitions." As the Army ACE of Engineers (ACE) is charged with designating jurisdictional waters for the purposes of Section 404 mining permits, OSM is establishing a separate stream designation process that it clearly intends to set up as its own discretion. This will most likely result in confusion and litigation allowing second guessing of ACE jurisdictional determinations. This is proposed rule making is basically a ban on mining in most states. With the current ACE practice of designating even small gullies as jurisdictional waters it would be impossible to mine most areas. On AML benches severed stream segments flow over the AML highwall then down the bench to a low point where the water then flows off the bench down through a drain way or eroded gulley. Under OSM's proposal these AML benches and highwalls could not be mined and reclaimed thus restoring the severed stream segment to its original channel. How can OSM justify that as being environmentally protective? Revising the design requirements for excess spoil fills and backfilling that will require side hill fills or ridge top fills will likely create long term stability problems. OSM is proposing that material damage to the hydrologic balance would be defined as a measurable adverse impact on water quality and quantity resulting in degraded biological conditions in the intermittent and perennial stream network within			

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			the watershed. This is contrary to the plain language of SMCRA which states in Section 515 (b) "General performance standards shall be applicable to all surface coal mining and reclamation operations and shall require the operation as a minimum to - (10) minimize the disturbances to the prevailing hydrologic balance at the mine-site and in associated offsite areas and to the quality and quantity of water in surface and ground water systems both during and after surface coal mining operations and during reclamation by ... and; (24) to the extent possible using the best technology currently available, **minimize disturbances and adverse impacts of the operation on fish, wildlife, and related environmental values**, and achieve enhancement of such resources where practicable:". As can be seen by this language Congressional intent was to **"minimize"** adverse impacts to the hydrological balance and not to prevent any adverse impact. It is impossible to conduct any surface disturbance operations such as coal mining or even underground mining operations without leaving a footprint of some sort on the environment. Combined with OSM's draft revised Ten-Day Notice policy which provides for Ten-Day Notices to be written for perceived permit defects this type of provision will lead to second guessing of state permit decision making and to needless appeals of permitting decisions and ensuing litigation. OSM should also take note of Section 101 of SMCRA which lays out the Congressional findings for enacting SMCRA. This language reads "The Congress finds and declares that – (a) extraction of coal and other minerals from the earth can be accomplished by various methods of mining, including surface mining; (b) coal mining operations presently contribute significantly to the Nation's energy requirements; surface coal mining constitutes one method of			

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			extraction of the resource; the overwhelming percentage of the Nation's coal reserves can only be extracted by underground mining methods, and it is, therefore, essential to the national interest to insure the existence of an expanding and economically healthy underground coal mining industry" OSM's proposed rule making will adversely affect not only surface mining but underground mining as well which clearly is contrary to this Congressional findings statement in SMCRA. The assertion in Chapter 4 that longwall mining will not cause subsidence is a clear indication that the author(s) no little or nothing about the subject of this draft EIS. It is clear that OSM is failing to follow the proper Administrative Procedures Act and the National Environmental Policy Act requirements and the requirement in this rulemaking process. OSM is writing the rule prior to completing a valid Environmental Impact Statement. OSM is basically stating what the "answer" is without defining the "problem" they are trying to solve. As stated on page 4-232 OSM acknowledges "For most of those other activities, OSM has no information, and developing and analyzing information on those actions and their impacts would have exorbitant costs. Furthermore, analysis of those actions and their effects is not central to an informed evaluation of the impacts of this federal action." Virginia agreed to participate as a cooperating agency in the development of the DEIS however OSM's failure to perform meaningful analysis and data collection combined with OSM's failure to take Virginia's previous comments seriously, ignoring the majority and the limited timeframe given for review and comment has made meaningful participation by Virginia or any other cooperating state agency impossible. Cooperating agencies were told by OSM staff that they would be asked to provide data for the alternatives analysis that would comprise			

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			the forthcoming Chapter 4 of the DEIS. A few weeks later the cooperation agencies were then told that OSM staff would provide that information for the DEIS contractor. It is hard to accept that OSM is providing data on the analysis impacts for the states especially in Virginia. No studies or research conducted in Virginia is included in the DEIS. A simple question such as to potential impacts to agency resources was answered by OSM and not by agency staff. OSM does not have the ability to predict what the proposed changes could have on the staff resources of the Virginia Department of Mines, Minerals and Energy, Division of Mined Land Reclamation.			
GENERAL	ALL	ALL	It is clear that the sole purpose of this EIS is to greatly reduce or eliminate Appalachian coal mining in favor of coal mining in other regions. The repeated comment at the end of many sections, stating that the majority of adverse environmental impacts occurs in the Appalachian Basin, is biased and not supported by factual data and appears to be opinion.	(Bradley Lambert, Virginia DMME)	Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
GENERAL	ALL	ALL	The majority of this report appears to have been developed by individuals who are unfamiliar with the ecological functions, geology, hydrology, and mining practices in individual states. The data (when referenced) and impacts identified are limited to specific states within the Appalachian Region; however, the requirements contained within this document will pertain to each state within entire Appalachian Region.	(Bradley Lambert, Virginia DMME)	No	Due to the scope of a programmatic EIS some regional generalizations are required. The writers of the EIS include environmental specialists and mining engineers familiar with mining processes and affected resources.
GENERAL	ALL	ALL	In keeping with the directive of the Council on Environmental Quality, the entire EIS can realistically only be evaluated in the context with law and regulations promulgated by state and federal agencies. A large array of laws and regulations now exert nearly as much control over mining as do laws and regulations of SMCRA.	(Bradley Lambert, Virginia DMME)	No	An EIS must evaluate a reasonable range of alternatives and is not limited by existing state or federal laws and regulations. All applicable NEPA requirements will be satisfied.
GENERAL	ALL	ALL	As in chapter 3, the conclusions reached in the various alternatives appears often be based on very marginal data often of limited geographic extent. There is a general lack of supporting data for the	(Bradley Lambert, Virginia DMME)	Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to

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			conclusions made. This report has not been developed in a transparent manner as is often the objection EPA uses in scrutinizing state program decisions.			finalization.
GENERAL	ALL	ALL	The feasibility of many proposed changes throughout this document relies on development of new technical procedures and technology. Development of BMPs, corrective action thresholds, watershed scale restorations, improved fill and sediment pond designs, mitigation measures to restore function, AOC+ stable backfill, etc. will require much time and effort to develop. Some new design requirements may not be feasible, such as overstacking and backstowing. The timeframes for development and testing of these new methods (if possible) were not taken into account.	(Bradley Lambert, Virginia DMME)	No	An EIS must evaluate a reasonable range of alternatives. The cost of implementation will be described in the Regulatory Impact Analysis (RIA).
GENERAL	ALL	ALL	The current reinterpretation of CWA 402/404 requirements has not been incorporated into this document. An evaluation of these proposed alternatives should include the 402/404 requirements currently being implemented by the respective 402/404 permitting agencies. To do otherwise will likely result in contradictory requirements. For example, the OSM is proposing a SMCRA stream definition that will not match the ACE definition/delineation.	(Bradely Lambert, Virginia DMME)	No	The analysis includes a cumulative impact discussion. A more rigorous analysis of the cumulative regulatory impacts of provisions of CWA and SMCRA . An EIS must evaluate a reasonable range of alternatives regarding stream definition.
GENERAL	ALL	ALL	The general concept of this definition of Material Damage is currently being utilized in Virginia. However, the definition should not be automatically applied to each stream segment that may receive a discharge, for example, if there is a dilution capacity, a mixing zone may be used below the NPDES point. Also, many streams are already impaired and not meeting designated use. In those cases, the TMDL report provides guidance to as to what are allowable discharges. The levels of the thresholds to quantify material damage should be left to the RAs to determine.	(Bradely Lambert, Virginia DMME)	No	The comment lacks specific detail regarding deficiencies of the EIS content and or format. An EIS must evaluate a reasonable range of alternatives.
GENERAL	ALL	ALL	The economic impact to the mining industry and state	(Bradely	No	An EIS must evaluate a reasonable range of

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			regulatory division due to increased permitting and monitoring requirements has not been addressed. The implications of these alternatives would create changes to the permitting process, specifically RA staffing, bonding, and RA funding, that have not been incorporated into these alternatives. For example, Virginia was not contacted regarding the additional staff needed and additional permit review times that the various alternatives would require.	Lambert, Virginia DMME)		alternatives. The cost of implementation will be described in the Regulatory Impact Analysis (RIA).
GENERAL	ALL	ALL	Alternative energy development is unlikely to be able to replace the need for steam coal for at least several decades. The assumed predicted shift from Appalachian basin coal production to the Western and/or Gulf region coal does not take into account the coal quality required by steam power plants. The lower BTU and higher ash content of Western/Gulf coals often requires blending with higher quality Appalachian coal in order for power plants to burn these coals. Burning of higher ash coals can result in larger quantities of ash for disposal.	(Bradely Lambert, Virginia DMME)	Duplicate	The production and economic effects of alternatives with respect to met coal will be considered in the EIS.
GENERAL	ALL	ALL	The additional expense for trucking or rail transportation for the western coal to be delivered to eastern coal fired power plants would be excessive and raise the cost of electric power delivered to customers. This increased haulage will also have adverse impacts to the environment and transportation infrastructure.	(Bradely Lambert, Virginia DMME)	No	The projected impacts to the cost of electric power has been determined to be out of scope and will not be rigorously analyzed in this EIS.
GENERAL	ALL	ALL	Shifts of coal production are tied directly to BTU, however, metallurgical coal production is not mentioned or addressed. Western coal is not of metallurgical grade.	(Bradely Lambert, Virginia DMME)	Duplicate	The production and economic impacts of alternatives with respect to met coal will be considered in the EIS.
GENERAL	ALL	ALL	Many of the scientific studies referenced throughout this EIS have been misrepresented and taken out of context. Others were not extracted from peer reviewed journals and should not be included in a decision document. Certain elements that were only applicable to the states where the study was conducted have been	(Bradely Lambert, Virginia DMME)	Yes	The EIS Team will review all referenced scientific studies to verify that they are accurately represented, are peer reviewed and consider existing studies that may present alternate conclusion were available.

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			applied to entire basins. For example, Pond (2008), only explored impacts to benthics below fills in certain areas in West Virginia. A separate study, that focused in one part of the Virginia Coalfields, Passmore-Pond (2009), did not support the same conclusions but was not included.			
GENERAL	ALL	ALL	The EIS does not address the existing impacts to watersheds from pre-SMCRA mining and other non-point sources of impairments which affect most streams in the mining areas in Virginia. Approximately 90 percent of the streams in the Virginia coalfields have been impacted including but not limited to water quality degradation, stream function degradation, loss of riparian habitat, etc. Surface mining has been used effectively in conjunction with TMDL requirements to correct AML features which would never be addressed with AML funding as most of these features would be priority 3. In fact, the TMDL implementation plans rely almost exclusively on remining, TMDL offsets and no-cost agreements to restore these streams to an unimpaired level. Reduction/elimination of surface mining in Virginia will ensure that stream restoration will not occur. There are no other resources available to the coalfields communities to restore impaired streams. The shift of coal mining to the western areas will also reduce the AML funding available to restore streams through the OSM Clean Streams Initiative.	(Bradely Lambert, Virginia DMME)	Yes	The applicable provisions of the Elements will evaluated with respect to impacts on the remining of pre-SMCRA disturbances. The projected impacts to regional AML grants is discussed in the analysis Socioeconomic impacts of the EIS.
GENERAL	ALL	ALL	The document in general does not mention/consider/evaluate the existing abandoned mined lands (AML) and impacts from them. Remining is a valuable tool to clean up and reclaim AML problems that will otherwise never occur to the extent of existing problems and limited or no funding to address them. This omission weights heavily in the impact assessment in the various alternatives, particularly relative to surface mining in the Appalachian Basin. Due to this omission, the	(Bradely Lambert, Virginia DMME)	Duplicate	The applicable provisions of the Elements will evaluated with respect to impacts on the remining of pre-SMCRA disturbances.

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			proposed alternatives relative to surface mining impacts are very much skewed toward the no or limited surface mining determination.			
GENERAL	ALL	ALL	In the coalfields, residential areas occupy most riparian zones in 2nd order streams and higher; therefore, sedimentation is often greater from these areas than mining discharges. Also, most of these residential areas rely on straight pipe sewage discharges which cause significant problems to the benthic communities.	(Bradely Lambert, Virginia DMME)	No	The impact analyses for provisions of the range of alternatives are evaluated strictly with respect to their relative ability to enhance or degrade water quality. The analysis does not account for domestic discharge impacts and thus are normalized.
General			Following these general comments, please see DOGM's more specific comments included in the following pages. Since the Cooperating Agencies have not yet been provided with a clear summary of the Proposed Action and the Alternatives (such as a clear, revised Chapter 2), we are unable to provide a complete and accurate evaluation of the potential impacts of the Proposed Action and Alternatives. Until this information is available, together with clear, revised Chapter 3 correctly documenting the affected environment, the stated results of the Proposed Action and Alternatives will be questionable.	**State of Utah (c/o Dana Dean or Peter Brinton)**	No	The cooperating agencies will be given opportunity to comment on the preliminary final EIS document.
General			Due to time constraints, this review of Chapter 4 has been limited to cover parts of Sections 4.0 (introductory material), 4.5 (Preferred Alternative) and 4.7 (methodology). An in-depth review of all of the reviewed sections was not possible, given time constraints. Review of other sections was generally performed opportunistically, or when required in order to understand references in the sections which were reviewed in detail.	**State of Utah (c/o Dana Dean or Peter Brinton)**	No	The cooperating agencies will be given opportunity to comment on the preliminary final EIS document.
General			In addition to the following comments, Utah wishes to point out some significant concerns with assumptions and methods used to develop this EIS, all of which lead us to question the feasibility of developing an acceptable EIS of a nationwide scope in such a short time period. We apologize that we were unable to clearly identify some of these issues sooner, but	**State of Utah (c/o Dana Dean or Peter Brinton)**	Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.

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			some of these issues have only come to light while reviewing Chapter 4.			
General			This analysis does not adequately consider future coal production in the Colorado Plateau region. There are future coal production areas in Utah or possibly other Colorado Plateau states that are not now active, but which are expected to be active during the time period in which the rules will actually be implemented. Some of these areas have been omitted entirely from the EIS scope. Most of these reserves are federal coal reserves, and some may be surface mined. We can provide additional info as requested.	**State of Utah (c/o Dana Dean or Peter Brinton)**	No	Due to the scope of a programmatic EIS some regional generalizations are required. The EIS Team believes the national coal regions have been described accurately and are of sufficient characterization to support conclusions.
General			One of our general conclusions regarding the current Chapter 4 is that it cannot accurately describe foreseeable impacts to the Colorado Plateau coal-producing region because the scope used to identify the Affected Environment upon which Impact Analysis is based is incorrect, and the Proposed Action is vague. DOGM recognizes significant deficiencies in its review of sections addressing Utah. We expect that similar deficiencies of important information to exist in other Colorado Plateau areas not reviewed in as much detail. DOGM believes that the decision to analyze nationwide rule changes over such a short period of time has resulted (thus far) an inaccurate and inadequate document overall.	**State of Utah (c/o Dana Dean or Peter Brinton)**	No	Due to the scope of a programmatic EIS some regional generalizations are required. The EIS Team believes the national coal regions have been described accurately and are of sufficient characterization to support conclusions.
General			It is noted that royalties from the mining of federal and state coal have been included in the socioeconomic analysis in Chapter 4 of the EIS. Thank you. This is an important addition to the EIS. In our opinion, the loss of federal and state-owned coal as a government asset has not been given enough attention in this NEPA analysis. In the Colorado Plateau region, entire coal fields with primarily federal coal reserves do not fall within the current scope of the EIS.	**State of Utah (c/o Dana Dean or Peter Brinton)**	No	Due to the scope of a programmatic EIS some regional generalizations are required. The EIS Team believes the national coal regions have been described accurately and are of sufficient characterization to support conclusions.
General			The Production Shift Mathematical Model is not	**State of**	Duplicate	Deficiencies in clarity, conciseness and required level

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			included with the draft document, nor are the model inputs and outputs provided for the five alternatives analyzed. The model must be provided in order for cooperating agencies to comment adequately on the draft statement's analysis.	**Utah (c/o Dana Dean or Peter Brinton)**		of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
General			The public impact of potential changes to the cost of electricity is also a significant socioeconomic factor also not been discussed in this Chapter or in the EIS.	**State of Utah (c/o Dana Dean or Peter Brinton)**	No	The Socieconomic impacts related potential changes in the cost of electricity is beyond the scope of this EIS.
			While some Chapter 3 comments from the cooperating agencies have been considered in the development of Chapter 4 (such as a basic analysis of royalties on federal coal), it appears that some Chapter 4 conclusions about impacts may have been prepared prior to the incorporation of Cooperating Agencies' Chapter 3 comments with additional information about the affected environment (Chapter 3). It is understandable that a preliminary analysis of projected impacts would be helpful - perhaps needed - in starting to develop some of the general content of Ch.4. But before the revised draft of the EIS will be ready for public scrutiny, the conclusions in Chapter 4 need to be revised to account for additional information Chapter 3 comments. Otherwise, the conclusions made in the EIS will be both incorrect and indefensible.	**State of Utah (c/o Dana Dean or Peter Brinton)**	Duplicate	Due to the scope of a programmatic EIS some regional generalizations are required. Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
Global			Replace reference to Table 4.2.3-5 with reference to Table 4.3.3-2.	**State of Utah (c/o Dana Dean or Peter Brinton)**	Yes	Apply changes per comment.
General-All	All	All	Consistency in introductory content and sectional organization should be maintained throughout the document. Numerical headings are consistent, but some parallel sections have stronger introductory	**EPA**	Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to

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			material, whereas others may give only secondary information such as economic considerations under water elements in the beginning of the section. An example is 4.2.3.3.2.1: this section gives an introduction to the section. Consistent style should be maintained throughout document.			finalization.
General	All	All	Consistency in percentages, figures, and data should be carefully examined. There are numerous contradictions in data and calculations, too many to identify in this exercise.		Yes	The EIS Team will review all figures, tables and calculated data for consistency prior to finalization.
General	All	All	Suggest reorganization of sections to keep groundwater effects, surface water effects, and so forth in one section together for each alternative respectively. It is very difficult to compare and synthesize the impacts on each element, as they are interspersed throughout the document.		Yes	The EIS Team will evaluate the potential advantages of this suggestion to improve clarity and readability.
General	All	All	Economic considerations in general should not be the primary focus of environmental impacts. There are several sections where these considerations dominate the discussion, even in sections discussion hydrologic impacts. Environmental benefits and/or impacts should be discussed and summarized first. It may be more appropriate to keep these considerations in the socio-economic sections.		Yes	The contractors and OSM are currently working on better identifying and discussing the benefits.
General	All	All	Far more data and scientific literature citations are needed throughout the document. Numerous projections and assertions are made without supporting evidence or data. If analyses were conducted, more information on how figures and/or calculations were derived.		Yes	The supported research has been noted by other reviewers and the EIS Team will review
General	All	All	Finally, language and sentence structure as well as organization of ideas and information should be improved for readability. Avoid passive voice whenever possible and state ideas clearly. Be careful not to mix words or use contradictory or redundant language. Avoid excess words.		Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
General			Alternatives 2-5 are only compared to Alternative 1. If the impacts of all alternatives were grouped under impact categories, repetitive text could be minimized and comparison would be easier for the reader.		Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to

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						finalization.
General			Related to above, summary tables by impact category would allow comparisons.		Yes	Please consider adding a table like the one suggested as it would allow for easy comparison of the Benefits and impacts.
General			Some figures and information provide context but do not improve immediate comparison of alternatives. To shorten the length of the chapter, it could be moved to an appendix. One example is the stream density chart under Alternative 2.		No	Agree with some of the comment, however, at this time information, like the stream density chart as it was used to develop the important metrics.
General			Predictions about impacts of the alternatives supported by BPJ and other "experience" or knowledge factors should be augmented by more tangible support.		No	The elicitation process provides tangible support.
General			The EIS needs to discuss climate change, reducing GHGs beyond methane) and the fact that coal is a significant contributor to emissions. Briefly discuss "clean coal technologies"		No	Within the context of this EIS discussions of clean coal technology are beyond its scope.
General			There is little discussion of cumulative impacts.		No	Comment is too general and doesn't provide insight as to how to augment the CI section.
General			Please add information beyond economic impacts in the sections on Environmental Justice. For example health impacts and environmental impacts that effect the EJ communities.		Yes	Duplicative of other comments
General			Comparisons - water usage. While coal mining activities may not be the industry using the majority of fresh water the base line should be what coal mining uses and how than can be reduced, especially in arid parts of the US.		No	Water usage is just one of the ways to analyze the impacts that mining has on water resources.
General			Predations of impacts: the amount of coal mining that would be precluded under the various alternatives. The predictions seem overly broad. For example, how much underground mining will be curtailed? (95% under alt 2) Perhaps I missed it, but please point out the supporting data for this. These mines very so greatly and existing mines already have overburden disposal plans which would likely be grandfathered in. There should also be discussion of leases and valid exiting rights if these predications.		No	The current Chapter 4 document is not even the PDEIS and the evaluations and impacts are being refined. Please resubmit this comment for the PDEIS if that document doesn't satisfy your concerned.

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General			Definition of Streams – I am not aware that this has been fully resolved. Given that, this may contribute to uncertainty in some of the perditions based stream definitions.		No	Stream definition is finalized.
General			Suggest a brief discussion of other agencies/jurisdictions and changes that have been made. For example, NW 21 which is not currently being used in Appalachia, and how that might affect outcomes.		No	Unclear comment
General			Please realize that nearly all of our reviewers became very frustrated when trying to review this chapter because of the poor writing. We believe there are gains that have been made but they must be clearly described.. There needs to be a full discussion of the benefits of the alternatives as well as the perceived negative changes such as reduced coal output, job loss, reduced state revenue etc.		Duplicate	Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to
General			To some extent it is inevitable that Appalachian coal production will decline with or without regulatory change. The US will strive to meet its BTU needs. There should be a short discussion of other energy resources (renewables) coming on line that will compete with coal. They are not impact neutral.		No	Not relevant to this EIS

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	Section 4.0 – Intro
Contact Information	
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4.0.2	1-2	26-26	Somewhere in this section there needs to be a discussion of what constitutes the "water elements", "land elements" and "other elements" The discussion of the impacts would be much more clear if this was lined out up front.	Kevin Garnett-OSM	Yes	Chapter 3 is being reorganized to be consistent with the outline of Chapter 4. Please make sure you present the idea of Land, Water, and Other elements in Chapter 3.
4.0.2	2	3-23	The entire discussion of the different alternatives is confusing. The reader does not get a clear understanding of what each alternative involves. I know that can be gotten in Chapter 2, but there should be a way to summarize it here so the reader can follow it.	Kevin Garnett-OSM	No	The reader should refer back to Chapter 2 for a full explanation of the alternatives. Chapter 4 just highlights the contrast between the alternatives.
4.0.2	2	3-7	It needs to be addressed that the no action alternative would still require changes in State programs as the 2008 SBZ regulations have not been incorporated into the state programs.	Kevin Garnett-OSM	Yes	It needs to be explicitly stated for Alternative 1 that the 2008 SBZ will have to be implemented and State's will have to amend their programs to reflect the rule change....and this will take time. This needs to be stated on page 4-2 lies 3-7
4.0.4	4-4	25-31	**Correct two grammaticals and add sentence to end of paragraph** **Paleontological and Cultural Resources** – Because coal mining activities result in surface disturbance of land, resources of paleontological and cultural origin are sometimes vulnerable *to* mining activity.	Dale Herbort-OSM	Yes	revise

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			An extensive legal and regulatory framework *exists to protect* paleontological and cultural resources, and this DEIS assumes that the framework would continue to manage and control any adverse effects from coal mining on those resources. Any localized effects on paleontological and cultural resources cannot be projected within the scope of this programmatic and national analysis. *It can be presumed any alternative that restricts disturbances to the stream buffer zone would also reduce adverse effects on any cultural resources which occur there, thus extending a level of protection to some potential historic properties.*			
4.0.2	2	11	"Alternative 3is" should read "Alternative 3 is"	David Best	Yes	revise
4.0	all	all	Chapter 4 describes the potential effects of the No Action, Proposed Action, and other action alternatives (as described in Chapter 2) on the existing environment (Chapter 3). Since Chapter 3 is grosly inaccurate in describing the existing environment and inaccurately describes surface mining practices the analysis of the actions on the existing environment cannot be accurate	David Lane	No	Not a useful comment that details the changes that should be make to make the document more accurate.
4.0.4	4-4	25-31	**Correct two grammatical and add several sentences to the end of paragraph** **Paleontological and Cultural Resources** – Because coal mining activities result in surface	Foster Kirby	No	Duplicate comment to the Dale Herbort-OSM above.

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			disturbance of land, resources of paleontological and cultural origin are sometimes vulnerable *to* mining activity. An extensive legal and regulatory framework *exists to protect* paleontological and cultural resources, and this DEIS assumes that the framework would continue to manage and control any adverse effects from coal mining on those resources. Any localized effects on paleontological and cultural resources cannot be projected within the scope of this programmatic and national analysis. *It can be presumed any alternative that restricts disturbances to the stream buffer zone would also reduce adverse effects on any cultural resources which occur there, thus extending a level of protection to some potential historic properties.* *Historic property is defined as any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places.*			
4.0.4	4-3 to 4-4		Rationale for not considering these resources is unclear, particularly in light of the more detailed analysis given to other resources (e.g., employment, infrastructure). At very least rationale needs to be	Arthur Klevin	No	We believe this is clear.. For example, the impacts to Geology and Seismology are the same under any of the alternatives and the types of impacts that will be experienced are discussed in the Coal Resources

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			expanded. Failure to adequately explain decision not to consider GHG emissions in more detail may be fatal flaw.			and Mining sections (e.g. how many affected acres in a region will be the same as the direct impacts to the geology)
4.0	4-2	31	Why does the DEIS take this approach, when the proposed rulemaking focuses on regulatory changes to improve balance between environmental protection and the Nation's need for coal (first paragraph in preamble to proposed rule). Suggest deleting this section at this location and include in the methodology for the socio-economic impacts (which presumably would focus on economic impacts and such)	Dana Jacobsen	Yes	Other comments suggest moving the methodology section to the beginning of Chapter 4. If this happens, please incorporate this referenced section into the methodology section.
4.0	4-3	6	I believe this chapter should be examining the environmental consequences of each alternative--and should not begin to compare/contract the alternatives to one another.	Dana Jacobsen	No	This chapter does examine the environmental consequences of each alternative but it also provides a comparison of the overall impact of each of the alternatives on coal production, affected areas, and affected stream lengths.
4.0	4-3	21	I do not believe this message comes through in the preamble to the proposed rule--cross check this statement so that the proposed rule and DEIS contain the same assumptions	Dana Jacobsen	No	The preamble doesn't have to estimate the timeframe to implement the regulations, although OSM may add implementation timeframes to the preamble.
4.0	4-4	2	Need to provide rationale about why other geological issues are not being addressed. The decision not to further evaluate a particular resource area will be subject to close scrutiny by a reviewing court, so the explanation, analysis and support in the record needs to be complete and rationale.	Dana Jacobsen	No	The EIS does provide a rationale for as to why these other geological issues are not further address at 4.0.4. page 4-3 lines 24-32, in that potential impact to some resource areas (other geological in this case) would be negligible or would be essentially the same among all the action alternatives and unchanged from existing SMCRA requirements.
4.0	4-4	11	The preamble to the draft proposed rule does contain what appear to be measures to help improve/maintain soils. The preamble and the	Dana Jacobsen	No	There are no significant differences in the soil management, handling or protection mechanisms between any of 5 alternatives.

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			DEIS should be examined to make sure they are consistent because as drafted the DEIS may undercut the protections identified in the proposed rule the agency believes may be improved via a rulemaking. It is not intuitive that "soil" is not included in the DEIS as a resource that may be impacted or benefited by the proposed rule.			
4.0	4-4	25	All of the statements contain in this key paragraph need to be explained. It appears the paragraph concedes there will be air quality and coal impacts because they will parallel the impacts associated with coal resources and mining, so it is unclear why air quality and noise are being dismissed as an impact.	Dana Jacobsen	No	Chapter 4.0 is the introductory section to the EIS. These impacts have not been dismissed in total, but they have been determine not to be significant in there variation between any of the alternatives. Impacts related to air quality will be proportional to the level of activity (increase or decrease) of mining in any region. The rules themselves are not aimed at addressing issues of air quality beyond any currently existing SMCRA requirement.
4.0	4-4	31	Is it possible that addition of buffers to streams and the addition of other protective mechanisms might benefit the protection and assessment of paleo and cultural resources?	Dana Jacobsen	No	While it is true that an increase or decrease in mining in any region could have a greater or lesser impact to these resources proportional to the level of disturbance activity in that region, none of these alternatives are aimed at addressing the issue of paleo and cultural resources beyond any current existing SMCRA requirement.
4.0	4-4	37	Shouldn't this section be contained in the socioeconomic analysis?	Dana Jacobsen	No	Geomorphology and topography??? Comment not clear or mis referenced.
4.0.4	4-4	12	**While this is not my assigned section to review, I feel it very important to make this point. To not discuss climate change and methane associated with coal mining is going to pose a serious litigation risk especially associated with the regions where there will be increased mining. Currently, environmental groups have suits against DOI in Colorado and Wyoming over this exact issue – failure to adequately address methane release and impacts to climate change from coal mining (both underground and surface)**	Kristen Guerriero	No	On the scope of this programmatic analysis on a national level this rulemaking initiative would only result in negligible changes in emissions..

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			in NEPA documents. I strongly advise you to reconsider this position and carry forward an analysis of impacts from methane release.			
4.0.4	4-4	7	sedimentation of what?, rivers, lakes, ponds, oceans	Amy MacGregor	No	Clear as written
4.0.4	4-4	7	*SMCRA requires that soil erosion and sedimentation be minimized and otherwise controlled to mitigate these effects to the maximum extent technologically feasible.* Maybe this paragraph/sentence should mention prime farmland protections. Prime farmland is a national resource that is protected under SMCRA.	Amy MacGregor	No	This rule is not dealing with prime farmland.
4.0.4	4-4	9-11	Some of the alternatives assume that "Topsoil does not necessarily have to be reused on-site" and several state that "Topsoil must be reused on-site". This text implies that there is a difference in these assumptions. The regulations require the salvage of all topsoil and reuse unless you implement soils substitution. Under soils substitution the permittee must demonstrate that the substitute material is equal or more suitable than the existing topsoil. So the soil resource that is placed back on the mined surface is the best available soil material that is best able to support the intended post mining land use. Implying that this is a significant difference in the assumptions is a misrepresentation of the existing rules on soils and soil substitution.	Bill Joseph	Yes	Please consider and OSM will work with you to clarify any questions you might have on topsoil requirements.
4.0	4-2	11	Space is needed b/w "3" and "is"	Dawn Pacula	Yes	revise
4.0.4	4.4	12-24	General Comments: I am in general agreement that air quality, meteorology, and noise do not need to be carried forward for specific environment impact analysis. However, an expanded discussion of	Foster Kirby	Yes	Please consider the comment

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			elements in this section may be warranted. Air quality is generally evaluated and regulated on a regional and state level and they have developed air quality standards and acceptable levels in consideration of national standards. The relocation, increase and development of mining in other areas may increase impacts on air quality with greater impacts on those areas that are considered to have "cleaner air". In turn regulatory restriction and or mitigation maybe required. Further, if mines become more concentrated in an area, air quality may suffer. Additionally, if EPA ever develops regulations on green house gases certain coal regions and specific mines/ coal seams may require greater analysis and in turn mitigation and possible mining restrictions. Noise values are not expected to appreciably change and will be regulated at the local and perhaps the regional level.			
4.0.2	4-1	27-30	Although the elements are listed in other chapters, they should be listed here for clarity.	DD OSM Hydro Team	No	Like the document suggests, the reader should refer to Chapter 2 for elements. This helps to control the length of this already lengthy document.
4.02	4-2	8-23	The summaries of the alternatives 2-5 should be more descriptive. These are completely confusing.	DD OSM Hydro Team	No	These are just general descriptions of the alternatives and the document suggests the reader refer to Chapter 2 for a complete description.
4.0.5	4-6	1	The genesis of the acres disturbed for the Gulf Coast region (3,108.2 acres) is not clear. The area mined and disturbed reported in Texas (and readily available from http://www.rrc.state.tx.us/industry/_COALPRODthru2009.XLS) for 2008 was 5,633.3 acres.	John Caudel (Texas)	Yes	Please review the referenced Texas spreadsheet and make a decision of which acreage number to use.
4.0.4	4-4	27 -31	We would suggest separating cultural resources – historic properties - and paleontological resources. We also suggest choosing more appropriate wording. We would not agree that the regulatory framework "protects" historic properties. It might be preferable to	Ethel Eaton (Virginia SHPO)	Yes	Please consider the suggested language.

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			say "requires them to be taken into consideration decision-making". We would also suggest dropping the sentence "Any localized effects on paleontological and cultural resources cannot be projected within the scope of this programmatic and national analysis. " Effects can certainly be addressed in a more programmatic way. We fully understand that the purpose of the study is enhanced stream protection, not enhanced protection of historic properties. Nevertheless, the effects on historic properties will be very much the same as effects on visual resources (and can and should be addressed briefly along with land use, visual resources and recreation). Again we will point out that heritage tourism is also an element of recreation and in addition has economic benefits. We recommend that historic properties be more fully integrated into this chapter. Please note that the preferred alternative, Alternative 5, also appears to provide the best alternative for historic properties.			
4.0.5	4-5	3	Include historic properties with land use, visual resources, and recreation.	Ethel Eaton (Virginia SHPO)	No	Historic properties (cultural resources) are dealt with on page 4-4, lines 25 through 31.
4.0.2	4-2	10	...economic burden on the mining industry (**and region.**)	**State of Utah (c/o Dana Dean or Peter Brinton)**	Yes	Consider revising
4.0.2	4-2	21-23	The reference in these lines is exactly what SMCRA has accomplished over the past 33 years.	**State of Utah (c/o Dana Dean or Peter Brinton)**	No	Agree with comment... not need for revision
4.0.2	4-1	26 - 30	1. List the 11 principal elements considered and the 4 elements not considered. Reviewing Chapter 2.6, there are 3 elements described as "primarily administrative or risk-reducing in nature" which "have been eliminated from further analysis": Performance	**State of Utah (c/o Dana Dean or Peter**	Yes	Please consider stating the elements considered and not considered (in detail) in the section as several people have raised this issue. Not listing the elements is confusing to the readers.

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			Bonds and Release (2.6.1), Financial Assurance for Long Term Discharges of Parameters of Concern (2.6.2), and Permit Coordination (2.6.3). What is the 4th element not considered? 2. Remove the reference to Section 4.04 (sic) and replace with a correct reference for the rationale for determining "that changes to four of these principal elements would not result in any identifiable environmental impact". Section 4.0.4 provides rationale for excluding resource areas, not elements.	**Brinton)**		
4.0.3	4-3	1-2	It appears that the estimation of "future coal production" does not account for the significant increase in nationwide and global coal consumption (and associated increases in coal production) that are projected by the EIA and other sources (http://www.eia.doe.gov/oiaf/ieo/coal.html; http://www.tsl.uu.se/uhdsg/Publications/USA_Coal.pdf) over at least the next 25 years. The proposed rule changes would affect many of these years. The modeling of coal production shifts should account for increased production.	**State of Utah (c/o Dana Dean or Peter Brinton)**	No	Duplicate comment proposed in 4.7
4.0.3	4-3	3 - 5	A statement should be made either in this section or in the Methodology section indicating how representative the 2008 U.S. EIA data are for describing baseline coal production (i.e., was 2008 a typical year when compared to previous years, or was 2008 an unusual year for any of the seven coal mining regions?). This is important in evaluating the current state of coal mining for Alternative 1 (no change), to which the other alternatives are compared. A combination of observed and projected coal production data from a few years surrounding 2008 would be more justifiable in creating a baseline, considering recent economic changes. The use of 2008 U.S. EIA data for baseline should be added as a bullet to Section 4.7.1.1	**State of Utah (c/o Dana Dean or Peter Brinton)**	No	Duplicate comment proposed in 4.7
4.0.3	4-3	20	"...environmental impacts **and benefits** would be..."	Marcelo Calle	Yes	revise

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4.0.2	4-2	11	Insert a space between "3is"	EPA	Yes	revise
4.0.4	4-4	3-11	Soil impacts can be regional in scale, particularly in Appalachian coalfields, where total surface mining acreage is in the millions. Discussion more like that of the next section on Air seems more appropriate where soil erosion is proportional to the level of surface mining activity.	EPA	Yes	Please add that soil impacts would be proportional to mining activities, like in the air quality section they reference.
4.0.4	4-4	21-4	Statement about negligible effect on methane levels needs substantiation; perhaps this is given elsewhere in the document.	EPA	Yes	Consider
4.0.1	*4-1*	*5/6*	DELETE - of the DEIS, in the DEIS through// Rewrite as "discusses the potential environmental consequences of the alternatives considered by using a systematic impact analysis process.	EPA	Yes	Please consider these editorial suggestions
4.01	*4-1*	*14/18*	DELETE As noted in Chapter 1, this REWRITE "A programmatic EIS evaluates actions that encompass a large geographic scale or that constitute complex programs that cannot be evaluated at the specific project-level scale." DELETE - cannot be projected at specific locations or to specific mining operations. And rewrite as, "do not provide site or mine specific impacts.	EPA	Yes	Please consider these editorial suggestions
4.01	*4-1*	*21/22*	DELETE - presented in this chapter must and Rewrite using "considers"	EPA	Yes	Please consider these editorial suggestions
4.01	*4-1*	*24*	NOT Sure WHAT THIS MEANS – "The highest Organizational level in this chapter is at the alternative level, followed by resource area."	EPA	Yes	Please consider these editorial suggestions
4.02	*4-1*	*26*	DELETE - As discussed in Chapter 2 of this DEIS,	EPA	Yes	Please consider these editorial suggestions
4.02	*4-1*	*28*	Unless "identifiable" has a statutory meaning please replace with "significant" – Already Defined in NEPA.	EPA	Yes	Please consider these editorial suggestions
4.02	*4-2*	*1-23*	Suggest putting info on alternatives/impacts in a table.	EPA	No	Impacts aren't presented in section 4.0
		24-28	DELETE - In keeping with the requirements of NEPA and the CEQ regulations, and Rewrite as "OSM considers the alternatives discussed represent a full	EPA	Yes	Please consider these editorial suggestions

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			range of reasonable alternatives to assess for potential impacts."			
4.0.2	*4-2*	*29-33*	Delete - The initial effect that is projected to result from revised SMCRA rules is expressed in terms of Effects on coal mining operations and associated coal production. To assess potential effects on the coal mining industry, the DEIS team judged the following three elements to be the primary Determinants of how (surface versus underground) and where (coal region) future coal mining would likely occur, given the potential regulatory changes within each alternative: REWRITE as, "We will examine impacts on coal production and on the environment. Potential regulatory changes to the following elements -will have impacts on future coal production."	EPA	Yes	Please consider these suggestions
4.04	*4-3*	*29-30*	There shall be only brief discussion of [issues] other than significant issues." More focus and substance. The chapter is too long.	EPA	Yes	Consider
4.0.2	4-2	9-10	In addition to describing the degree of economic burden on the mining industry, this section should also note that the most environmentally protective alternative would have the most significant environmental benefits. This would be a more balanced approach than describing industry burden only.	EPA	Yes	The contractors are working on better identifying the environmental benefits.
4.0.2	4-2	9	Recommend replacing "natural resources" with "environment" within this section to describe what is being protected. "Natural resource" brings to mind the physical aspects of land, not the biological and chemical aspects of the environment and ecosystems (especially stream ecosystems) that this rule is most intending to protect.	EPA	Yes	Please consider
4.0.2	4-2	15-16	Recommend re-wording as follows: "Alternative 4 is comprised of provisions or approaches that are **protective of natural resources to a lesser degree when compared with those under Alternatives 2 and 3.**" Because alternative 4 is not being selected, it is not	EPA	Yes	Please consider

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			appropriate to suggest that it is or is not 'protective of natural resources."			
4.0.3	4-3	7	Recommend replacing "EIS team" with "OSM." This is OSM's document, not the product of its contractors.	EPA	Yes	revise
4.0.3	4-3	13-14	An analysis of environmental impacts should take into account more detailed factors than merely stream miles and acreages; instead, it should also describe the *functions* of those resources. (While valley fills, for example, destroy streams, other activities may impact streams but will not result in a reduction in the absolute number of stream miles.)	EPA	No	We are currently trying to identify more detailed metrics can be used to evaluate environmental impacts and benefits.
4.0.4	4-4	21	Delete the word "issues." Pollutants from coal transportation and electricity generation contribute to acid rain and climate change.	EPA	Yes	Please consider
4.0.4	4-4	21-24	Recommend deleting this sentence. Energy production and use are best analyzed from a life cycle perspective. Suggesting that methane is the most significant GHG contributor from coal mining and production is not appropriate. CEQ's NEPA regulations make clear that this document should assess direct, indirect, and cumulative impacts. (CO_2 emissions are a clear indirect result of coal mining, and therefore a discussion of such emissions is germane to this document – and its omission would be apparent.)	EPA	Yes	Please consider

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	Section 4.1 – Alternative 1
Contact Information	
Name	
Telephone Number	
Email	mcalle@osmre.gov

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4.1	5		There should be a discussion at the beginning of this alternative telling why there are impacts from the no action alternative. Typically, a no action alternative should result in no changes from the existing conditions. In this case, with the fact that the 2008 SBZ regs have not been incorporated into most state programs, the no action alternative would still require action.	Kevin Garnett	Yes	More detail will be provided regarding the impacts associated with the no action alternative.
4.1.1	5	16	Table 4.1.1-1 rounding is not consistent with tables in the rest of the alternatives. Rounding should be consistent (nearest whole number)	Kevin Garnett	Yes	All graphs, chart, figures, descriptions, conclusions and data will be checked for consistency.
4.1.2.2	7	28-30	In theory, Alternative 1 would minimize excess spoil in states outside of Appalachia. In practice, very few, if any, mines have excess spoil outside of the Appalachian basin. This statement is somewhat misleading.	Kevin Garnett	No	Sufficient emphasis has been provided that explains excess spoil valley fills are primarily associated with mining in Appalachian region.
4.1.6.4.2.1	67	32	In some sections, the EIS refers to 3 states in the Other Western Interior Region, and in others, it refers to 4 states.	Kevin Garnett	Yes	All graphs, chart, figures, descriptions, conclusions and data will be checked for consistency.
4.1.3.1.1.1	11	1-7	I question the validity of using numbers of NPDES and SDWA violations as regional indicators of water quality. I also question inclusion of the implication that water quality "will likely remain the same or even degrade" since, as I understand it, current trends in violations provide no indication of change in either direction.	Mike Richmond	Yes	The EIS will include discussion/details supporting the prediction of no change or possible degradation.
4.1.3.1.1.2	11	18-23	How are these numbers normalized for BTU levels? It would appear the units should be acres per some	Mike Richmond	No	Normalization is discussed in section 4.7.

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			number of BTUs.			
4.1.3.1.1.2	13	10	I thought surface mining was 140 acres per MMton.	Mike Richmond	Yes	Sentence on page 13, line 17 should make it clear tha the impact predicted (140 to 170) will occur in the Illinois Basin.
4.1.3.1.1.2	13	12	Are these (35 & 23) acres per MMton? May need to define acres per MMton for underground as was done for surface mining. These could be presented in a table.	Mike Richmond	Yes	Define the units associated with impact. For example acres per year or acres per BTU.
4.1.3.1.1.2	13	31-39	Again, how are these numbers normalized for BTU levels?	Mike Richmond	No	BTU Normalization is discussed in section 4.7.
4.1.3.1.1.2	14	1-2	All discussion in the remainder of this paragraph was in terms of miles of stream affected per MMton. This statement is in absolute terms, and may be misleading. It appears current trends will result in a decrease in miles of stream affected per MMton. For consistency, maybe that is what should be said.	Mike Richmond	Yes	The premise of this document relies on stream length impact as representative of the relative magnitude of impact associated with the hydrologic balance. Please provide clarification as to why reductions of stream lengths are predicted and material damage is expected to increase.
4.1.3.1.1.3	15	11-13	Blasting activities? In underground coal mining? I would expect blasting to occur only during faceup.	Mike Richmond	Yes	Please correct the language to associate fracturing with subsidence and not blasting. Blasting has a negligible affect relative to fracturing of overburden.
4.1.3.1.1.3	18	13-16	This paragraph did not make sense to me.	Mike Richmond	Yes	Deep aquifers can potentially be impacted by mining, for example, mining operations that utilize high volumes of water for production processes may impac deep aquifers.
4,1,3,2,1,1	24	1	The typical fill does not inundate several thousand feet, but several hundred feet of these streams.	Mike Richmond	Yes	Please review comment and apply changes as applicable.
4.1.3.3.1.2	27	4	The effluent limitation is from 40 CFR Part 434 (EPA), referenced in SMCRA regulations.	Mike Richmond	Yes	Insert the correct reference. Effluent limitations are no prescribed by SMCRA.
4.1.4.2	40	17-19	Underground mines require refuse disposal areas.	Mike Richmond	Yes	The statement "Most underground mining methods dispose of the spoils within the mine and do not require an excess spoil area." Underground mines do require refuse disposal areas.
4.1.2.1	4-6	22-24	You're talking about the No-Action Alternative, so when you say that "it is expected that...that [need only one 'that'] less fill material will be placed in streams	Peter Michael	Duplicate	More information will be provided regarding the predicted impacts associated with the No Action.

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			and that valley fills will be minimized," what are you comparing the expected development to? An earlier rule to the one in force? Should straighten out the confusion.			
4.1.2.2	4-7	6-34	Same problem as above. Phrases like "would change," "expected to," "would lead to" etc. imply a change, but this is about the No-Action Alternative. So what is the change from?	Peter Michael	Duplicate	More information will be provided regarding the predicted impacts associated with the No Action.
4.1.2.2	4-7-–4-8	38-2	Wrong title for the ASMR conference, although I like the title your citing better (the peer reviewers made me change it). You're listing the title used at the SME annual meeting in Denver in 2/07. Essentially the same paper, although it was modified for ASMR.	Peter Michael	Yes	Please correct the citation. OSM can provide the proper citation as needed.
4.1.2.2	4-8—4-9	4-25	This is an important discussion, but as far as I can tell you still do not have any mention of these concerns in Ch. 3, the Impacted Environment. My most important comment on that chapter was the absence of attention to the geomorphology (natural and artificial) *between the streams,* i.e. the interfluve area. At least some of what you have in Ch. 4 may belong there.	Peter Michael	Yes	The content of Chapter 3 and Chapter 4 will be verifie for consistency and content regarding this material.
4.1.2.1	4-6	13-15	Open quotations, no end quotations	Stefanie Self	Yes	Apply correction per comment.
4.1.2.1	4-6	13	A # sign before the 1, nowhere else do I see that	Stefanie Self	Duplicate	All graphs, chart, figures, numbers, descriptions, conclusions, format and data will be checked for consistency prior to finalization.
4.1.2.2	4-7	5-39	This section discusses the impact of Alternative 1,	David	Duplicate	More information will be provided regarding the

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			"No Action" on the existing environment. Since there is no action with this alternative, there would be no changes to the existing environment; however, this section discusses in great length the changes to Land Elements as a result of no action. This entire section(except the last 3 lines) is inaccurate and should be rewritten. The discussion in section 4.1.5.2 is more accurate and the writer should reference that to correctly discuss changes associated with no action.	Lane		predicted impacts associated with the No Action.
4.1.2.2	4-8	1-38	This section discusses the impact of Alternative 1, "No Action" on the existing environment. Since there is no action with this alternative, there would be no changes to the existing environment: however this section discusses in great length the changes to Land Elements as a result of no action. This entire section(except the last 3 lines) is inaccurate and should be rewritten. The discussion in section 4.1.5.2 is more accurate and the writer should reference that to correctly discuss changes associated with no action.	David Lane	Duplicate	More information will be provided regarding the predicted impacts associated with the No Action.
4.1.2.2	4-9	1-25	This section discusses the impact of Alternative 1, "No Action" on the existing environment. Since there is no action with this alternative, there would be no changes to the existing environment: however this section discusses in great length the changes to Land Elements as a result of no action. This entire section is inaccurate (except the last 3 lines) and should be rewritten. The discussion in section 4.1.5.2 is more accurate and the writer should reference that to correctly discuss changes associated with no action.	David Lane	Duplicate	More information will be provided regarding the predicted impacts associated with the No Action.
4.1.2.2	4-9	26-28	This is the only accurate part of this section.	David Lane	No	No specific guidance or instructions.
4.0.2	4-2	L-11	Space between "3" & "is"; written as "3is"	Karen Jass	Yes	Apply correction per comment.
Table	v-viii	Thru out chpt 4	Formatting of table name – wrap around under table #	Karen Jass	Duplicate	All graphs, chart, figures, numbers, descriptions, conclusions, format and data will be checked for consistency prior to finalization.

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4.0.4	4-4	19-21	The environmental effects listed are only negative, suggesting only long-term negative environmental problems. Suggest removing or adding positive effects from pmlu such as wildlife/recreational area, or flat land in eastern KY for soccer fields, etc.	Karen Jass	Duplicate	This comment has been addressed.
4.1.2	4-6	13	Where is the closing "?	Karen Jass	Yes	Apply correction per comment.
4.1.2.2	4-8	7 11	What is MTM/VF EIS? This needs to be defined somewhere. Write out SF (safety factor) in this case, esp. if this is the only use. Multiple references to Michael/Superfesky study and OSM 2002 stability study. Can these be consolidated or footnoted instead of writing it name out each time?	Karen Jass	Yes	All references and acronyms will be properly cited.
4.1.3.1.1.1	4-10	Table 4.1-3-1	It took me a minute to realize that "Total Withdrawal (of water)" meant all useage by everyone/everthing. Can this be clarified to reflect what is actually meant?	Karen Jass	Yes	Please detail examples of uses included in total withdrawl volumes.
4.1.3.1.1.2	4-11	34	Define HUC, for those non-hydrologists	Karen Jass	Yes	The concept of Hydrologic Unit (HUC) must be explained.
4.1.3.1.1.2	12	4	Statement "assuming current trends" assumes a 1:1 replacement of western coal for eastern coal. This doesn't really consider lower btu so more western coal will actually have to be mined to compensate for that. Western acreage disturbance may actually go up. Section 4.7.1.1 did address this, but it is an incorrect assumption which affects all subsequent data.	Karen Jass	No	BTU Normalization is discussed in section 4.7.
4.1.3.1.1.2	12	17	"Further adaption of FRA" addresses the current name for the currently in vogue process. Can this	Karen Jass	Yes	The Forestry Reclamation Approach must be described in greater detail for readers not familiar with the method. If this methodology is described

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			process simply be the identified for what is is (less compaction), rather than the ARCC name for the process?			elsewhere provide applicable reference.
4.1.3.1.1.2	12	24	Is FPOP process defined or this new process explained somewhere in this document? I think it infers a change to a practice, but that isn't stated.	Karen Jass	Yes	The Fill Placement Optimization Plan (FPOP) must be described in greater detail for readers not familiar with the method. If this methodology is described elsewhere provide applicable reference.
4.1.3.1.1.2	12	29-40	What is the purpose of this statement? Are the same effects of using geomorphic/ native stream design and other BMP's not used throughout the country w/ the same results to the hydrologic system?	Karen Jass	Yes	The discussion about water relater impacts (improvements or degradation) associated with geomorphic reclamation and the use of BMPS should be discussed for all regions. This language implies affects of these methods only apply to the Northern Rocky Mountains and Colorado Plateau. The format including Land Elements, Water Elements and Other Elements from the alternatives provisions is not consistent and there organization is fragmented and lacks context. For example, Land Elements are being discussed in Water Elements. The organization format must be preserved or another logical organization/format must be developed.
4.1.3.1.1.2	13	7-9	Should this be shift actually be from eastern underground mining to western surface mining? Granted a good portion of the IL/IN/KY mines are underground, but the vast majority of coal mined in WY, MT, NM, AZ, ND are surface mines.	Karen Jass	No	The sentence only predicts that Appalachian Mining will shift to Illinois Basin and Colorado Plateau. The sentence does not predict whether the shift to these regions will be underground, surface or a mix.
4.1.3.1.1.2	13	25	For a non-hydroligist, would it be wise to explain how the affected length is determined. It isn't clear to me whether the affected length of the stream is the area immediately under/adjacent to disturbance or whether it also includes the downstream reach of the immediatge stream (s)? If it does include everything, then wouldn't the flatter terrain in the	Karen Jass	Yes	The methodology section must clearly identify including assumptions how affected length was determined.

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			Midwest & west have larger affected areas than those in the east?			
4.1.3.1.1.2	14	8	Recent and regional protocol (limited to that region)?	Karen Jass	Yes	All references will be cited properly. The statement about underground mines being used for domestic use must be qualified.
4.1.3.1.1.3	16	8 38	Footnote or detailed reference needed for(Booth 1985) What is this, Bureau of Mines, USGS, OSM or state research publication? UG mines filled with groundwater MAY be used – but it isn't true in all cases!	Karen Jass	Yes	Apply edit per comment.
4.1.3.1.1.3	17	16, 18, 35 13 15	If the language inside the "( )" has been added by this EIS, it should be clarified – see below specifics. There are hanging " at the end of line 16, 18 & 35. Does "extra fill" area" mean more voids to fill with water, or with swell factor creates a greater overall volume to potentially store water? Unfavorable reclaimed soil (poor water storage in root zone) – this should be clarified to say it means poor capacity, rather than mean unsuitable quality	Karen Jass	Yes	Correct hanging quoted per comment Define extra fill Clarify poor storage potential due to compaction.
4.1.3.1.1..3	17	26	(Bouwer, 1978). Footnote or otherwise explain.	Karen Jass	Duplicate	All references will be cited properly
4.1.3.1.1.3	18	7	Wyrick and Borchers, 1981 – footnote or explain	Karen Jass	Duplicate	All references will be cited properly
4.1.3.1.1.3	18	13	Hanging "	Karen Jass	Yes	Apply edit per comment.
4.1.3.1.1.3	17-18	5-16	Is all of this a quote from somewhere? Or is this the EIS analysis of a couple of regional documents to provide insite into effects of mining? Are these generalized statements always true outside of a specific region, specifically, "permeable areas are	Karen Jass	Yes	The information is collected and paraphrased from the referenced document of national scope. All references will be cited properly.

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			formed in the approximate location of an outcrop of a former coal seam"? What if you have an unmined outcrop that is the source of recharge (example: uplifted western edge of front range Colorado coal seams)			
4.1.3.3.1.2	4-26	33 & 36	As questioned earier, aren't the FRA, BMP and geomorphic processes used nationwide? If so, why are the areas where these are stated as being implemented only cited as being used in specific regions rather than nationwide?	Karen Jass	Yes	The discussion about water relater impacts (improvements or degradation) associated with geomorphic reclamation and the use of BMPS should be discussed for all regions. This language implies affects of these methods only apply to the Northern Rocky Mountains and Colorado Plateau.
4.1.3.3.2.1	4-27	20-21	"elements—baseline data collection and analysis and monitoring during mining and reclamation" for consistency w/ the rest of this pargraph, these elements should be capitalized.	Karen Jass	Yes	Apply edit per comment.
4.1.4	4-28	Table 4.1.4-1	What is the source and date of this information? May not reflect impact of recent judges decisions to overturn allowance of mining (several 1000 acres) in NM & AZ.	Karen Jass	No	The EIS will not include these decisions. The impact methodology is described in section 4.0 and 4.7.
4.1.4.1	*4-29*	4	"up- and downstream" Shouldn't this, w/ use of -, be written as "up- and down-stream"?	Karen Jass	Yes	Remove hyphenation. Upstream and downstream should not be hyphenated.
4.1.4.1	4-29-30	6-40/13-32	All referenced documents in this section – include footnote w/ full name of document or some other means to identify the document or concept being referenced.	Karen Jass	Duplicate	All references and acronyms will be properly cited.
4.1.6.4.1	4-66	20-25	This utilities section addresses only the availability and capacity of water treatment. There is no discussion of the AVAILIBILITY water for use, nor of the need or capacity of electrical power.	Karen Jass	No	These issues are beyond the scope of the EIS
4.1.7.1.1	4-70	26-31	There is no mention of the leading cause of miner's	Karen Jass	No	Proposed level of detail not required.

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			injuries – slips, trips and falls which occur with equal frequency at underground and surface coal mines. What about accidents caused by & around equipment? Geologically based injuries – roof falls, rib bursts, highwall failures. Dust, gases?			
4.1.7	4-70-4-75	inclusive	What is the difference between sections 4.1.7.1 and 4.1.7.2 – can these be combined, with all the information combined to be comprehensive for both miners or public as nothing is very specific?	Karen Jass	Yes	Apply edit per comment. Consolidate unless the division is necessary.
4.1.7.1.2	4-72	4-8	There is no mention of public's exposure to truck traffic and rail traffic (road crossings, diesel fumes, etc). Affects of blasting (fly rock), roadway spills, dust?	Karen Jass	Yes	In methodology section4.7 include other examples of potential public safety hazards associated with coal mining and discuss relative to impact assessments.
4.1.7.2.1	4-72	11-13	What exactly are "disorders of the lung, trauma and other disorders"? Also, what are the skin illnesses associated with coal mining? Given the history of coal mining in the US and around the world, I surprised there are no specifics listed, at lease in this first section of the EIS, Alternative 1. Section 4.7.7 indicates that "other" includes kidney disease, diabetes, cardiopulmonary". When did these become an occupational hazard of a coal miner compared to a truck driver or housekeeper? As far as these being a public health issue, again, how are these singularly related to coal mining when these are reflected throughout the general population of the US?	Karen Jass	No	Proposed level of detail not required. See section 4.7 methodology.
4.1.7.2.1	4-75	Figure 4.1.7-5	"Repeated Trauma" This SHOULD be identified as Table 4.1.7.4 in the sequence of tables. Also, somewhere in the text, "Repeated Traumas" should be explained	Karen Jass	Yes	Apply edit per comment.

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4.1.7.2.2	4-75	4-8	No mention of affects from dust, blasting, fumes, weather and various mobile equipment (diesel fumes). There have been studies done in local areas addressing respiratory problems associated with coal and road dust – one example is Marsh Fork Elementary School down wind of the Massey C/C silos.	Karen Jass	Yes	Include representative regional studies as suggested.
4.1.6.1.1.1.	4-97	20	This section indicates an overall loss of 29000 jobs, yet table 4.2.6-1 indicates that in nearly all sectors the number of jobs increased from the numbers listed in table 4.1.6-1. Explain how the employment numbers in this table can increase with the tighter mining restrictions.	Karen Jass	N o	The parenthesis indicate (negative v alue).
4.1.6.4.2.2	4-68 &69	4-8	*In this section and in all alternatives, the discussion of shipped coal via barge it isn't clearly stated that the coal is transported at some point after leaving the mine property, rather than from the mine directly. I realized that reference to barge shipped coal mined in the MT coal fields is done downstream in the supply line. There are no navigable streams or rivers in the this immediate coalfield area. I think it would be wise to state up front, again for the 8th grade reader, that transport via barge in any region is once it leaves the mine property and at some point en route to its final destination for consumption.*	Karen Jass	No	Proposed level of detail not required.
4.1.6.1.1	4-55	27-28	Cite & footnote the actually document listed in text as Black,MiKinnish and Sanders (2004). Also, (Bell & York, 2010) – page 4-56, Line 2. Other examples throughout text (BLM, 2004 – page 4-266, Line 30).	Karen Jass	Duplicate	All references and acronyms will be properly cited.
4.1.2.2	9	26	...changes <u>to</u> the previous..	Dave Clark	Yes	Apply edit per comment.
4.1.4.1	30	12	most equipment on mine sites burns diesel, not gasoline	Dave Clark	Yes	Apply edit per comment.
4.1.4.1	31	18	...and <u>disturbance</u> is (<u>*or impacts are*</u>) to be avoided...	Dave	Yes	Apply edit per comment.

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				Clark		
4.1.4.1	33	11-16	It would be better to bullet both definitions	Dave Clark	Yes	Apply edit per comment.
4.1.4.2	40	30	I have never heard of herbicides being used for clearing land on Western US coal mines. I don't believe that this practice is "often required" in the West.	Dave Clark	Yes	Delete this language.
4.1.4.3	45	33	I believe that the Harrington and Loveall (2006) study was conducted on the Molycorp molybdenum mine, not a coal mine. Nelly Stark did a lot of ponderosa pine research on MT coal mines in the 1970-80s	Dave Clark	Yes	Review comment and use suggested referenced study as applicable.
4.1.5.3	53	Table 4.1.5-2	Colorado Plateau is not included in the table	Dave Clark	Yes	Apply edit per comment.
4.1	4-11	32 And throughout	Unclear what is meant by postbonding (which is also spelled "post-bonding" at other times). This term could mean after a bond is set and before release or could mean after release. If the term is to be used, its meaning should be established at its first use.	Courtney Shea	Yes	Suggest "During mining~~, the bonding and post bonding timeframes~~ and **reclamation** timeframes."
4.1	4-11	30-33	I am unclear why the impacts are phrased as "should be considered…" Isn't the purpose of this document to state what will be considered and what the impacts are? Maybe rephrase to state "Hydrologic and associated water impacts	Courtney Shea	Yes	Replace '~~should~~' with 'will'.

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			resulting from mining and reclamation and following bond release under Alternative 1 are expected to be ...."			
	4-26	26-32	Is it appropriate to deal with impacts from other alternatives in this section?	Courtney Shea	Yes	The FRA method should be described in sufficient detail and then later discussion on following sections can be referenced back to the 4.1 details.
	4-26	30	Change postbonding (post-bonding?) to "following bond release due to the continued growth of forest....	Courtney Shea	Yes	Apply edit per comment.
	4-31	27-28	This sentence is inconsistent with 816.41 which states "mining shall be conducted .. to prevent material damage to the hydrologic balance outside the permit area" Recommend rewording something along the lines that the potential for off-site indirect impacts would remain for any impacts which do not rise to the level of material damage to the hydrologic balance.	Courtney Shea	Yes	The No Action alternative does require preventing material damage to the hydrologic balance. This need to clarify that that the definition or material damage to the hydrologic balance is not defined.
4.1	----	----	The "no action" alternative is referred to as the baseline, but, as shown by example in the comment immediately below, there are statements about changes in fill configuration, etc., that will occur if the "no action" alternative is adopted. Is this because the "no action" alternative implements the 2008 stream buffer zone rule, which has not been incorporated into state programs, and which, after incorporation, will lead to the predicted changes?	Steve Barcley	Duplicate	No Action Impact and shift predictions. Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
4.1.2.2	4-7	6-10	If my assumption above is incorrect, why would the "no action" alternative change requirements related to surface configuration and fills, since the current regulations would remain in place? It appears that section 4.1 contains many statements that changes	Steve Barcley	Duplicate	No Action Impact and shift predictions. Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS

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			will occur as a result of implementation of the "no action" alternative. How can this be, since this alternative is supposed to be looking at baseline, i.e., the way things are now?			Team will work to resolve this deficiency prior to finalization.
4.1.3.1.1.2	4-13	4-24	Possible shifts in coal production, via both surface and underground mining, from the Appalachian Basin to the Illinois Basin and Colorado Plateau are predicted. Since this section discusses the "no action" (baseline) alternative, why are such shifts expected to occur?	Steve Barcley	Duplicate	No Action Impact and shift predictions. Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
Table 4.1.3-3	4-18 to 4-22	----	The information in the last column of the table is mostly derived from a 1981 report on coal mining and ground water resources. Is this report the latest collection of comprehensive data on this subject?	Steve Barcley	No	The referenced document is acceptable.
4.1.3.1.2.1, 4.1.3.1.2.2, 4.1.3.2.1.1	4-23	6-18, 20-21, 25-29	Chemical impacts to surface and groundwater quality under the "no action" alternative are expected to be similar to current observations, while physical impacts to surface water hydrology under the "no action" alternative may change due to coal production shifts. Why wouldn't chemical impacts also be expected to change due to production shifts?	Steve Barcley	Yes	Review comment for consistency and apply changes as applicable.
4.1.3.2.2.2, 4.1.3.3.2.2	4-26, 4-27	4-5, 25-26	It is stated that impacts to groundwater quality are expected to be the same as impacts to surface water. Are they expected to be the same, for the same reasons?	Steve Barcley	No	All hydrologic impacts are proportional to extent of disturbance and length of stream impacts and are described in the methodology section 4.7.
4.1.4.1	4-31	27-28	It is stated that "there would be no regulations in place to ensure that no changes in the hydrologic balance could occur off-site." Are there not regulations, promulgated under SMCRA, to ensure that offsite material damage to the hydrologic balance is prevented?	Steve Barcley	Duplicate	This comment has been addressed.
4.1.4.1	4-34	7-9	Was mean pH in Appalachian streams downstream of mountaintop mining sites really "significantly higher" than the pH in unmined sites?	Steve Barcley	No	The presented referenced documents are acceptable.
4.1.4.1	4-36	20-28	Do the findings of Hartman (2005) and Freund and Petty (2007) contradict those of Merrick (2007) with respect to manganese?	Steve Barcley	No	The presented referenced documents are acceptable.

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4.1.4.2	4-38	22-26	There is no discussion about effects of coal production shifts on terrestrial ecosystems. Should a discussion be added?	Steve Barcley	No	Impacts to terrestrial ecosystem s have been described.
4.1.5.1	4-52	12-14	What does this sentence, beginning with "While fishing and swimming in streams downstream", mean?	Steve Barcley	yes	Clarify this language.
4.1.5.1	4-52	15	The "current definition of . . . material damage" is mentioned. There is no current definition of material damage to the hydrologic balance outside the permit area. What definition is the author referring to?	Steve Barcley	Duplicate	This comment has been addressed.
4.1.7.2.1	4-73, 4-74, 4-75	Tables 4.1.7-3, 4.1.7-4, 4.1.7-5	The illnesses, lung disease, repeated trauma disorder occurrence numbers in these three tables seem remarkably low. Are they accurate?	Steve Barcley	yes	Numbers will be verified and changes applied as applicable.
4.1.4.2	4-40	30	Cryptobiotic crusts: this sentence implies that all soil surfaces in the Western US have crypobiotic crusts	Amy MacGregor	Yes	Please clarify this statement with respect to extent of these impacted soils.
4.1.4	All	All	Effects on listed aquatic species of impacts and contaminants being discussed should be addressed	Craig Walker	Duplicate	This comment has been addressed. Impacts to listed species will be doiscussed.
4.1.4	4-27	28-34	It is unclear if this section is referring to the difference between pre-law and post-law mining or to the different state regulatory programs. Please clarify.	Craig Walker	No	Language is clear that some impacts to biological resources are a result of pre-law (pre-SMCRA) disturbances.
4.1.4	4-27	32-32	There is limited value in including literature that does not represent current practices particularly when describing the no action alternative which should described the environmental impacts of the most current regulatory environment and mining practices. Where this material is appropriate a clear distinction needs to be made as to not confuse the reader.	Nick Grant	No	The references are best current available published studies and the EIS has qualified the limitations of the studies.
4.1.4.1	4.29	18	Adverse impacts of current mining practices on the aquatic environment are not well documented in all regions. Most of the literature cited in this section is focused on the Appalachian region.	Nick Grant	Yes	Please include a discussion why other regions have not been discussed or similar findings relevant to other regions of enhanced production need to be presented.
4.1.4.1	4-30	34-41	A "channelized stream" differs greatly in connotation from a stream utilizing a geomorphic approach or "natural channel design" Citing the results of a study on adverse effects of stream channelization and then	Nick Grant	Yes	Provide better clarification that while SMCRA contains language as cited, implementation in some cases has not reflected the intent.

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			drawing a comparison to SMCRAs requirement 816.43(4) is misleading.			
4.1.4.1	4-32	16-25	Briefly outline the current regulatory practices to prevent AMD	Nick Grant	Yes	Apply edit per comment.
Table 4.1.4-2	4-34		Care needs to be taken to verify these numbers. Based on what's published on EPA's AWQC webpage: http://water.epa.gov/scitech/swguidance/waterquality/standards/current/index.cfm it looks like several concentration numbers were improperly converted from ug/L to ml/L. Alkalinity and Chloride are both off by an order of magnitude. Also, the citation under the Table should be Hartman et al. (2005) not Harding.	Nick Grant	Yes	Verify comment and address as necessary.
4.1.4.1	4-33	4-10	Using just two studies from W. Virginia MTM/valley fill sites as the standard to gauge aquatic impact across all coal basins is misleading. Unfortunately, the baseline conditions of may streams within the Midwest are set much lower. Also, mining conditions and techniques differ greatly. Significant differences found in many of the material concentrations cited by Pond and Hartman may be more difficult to establish within the Illinois Coal Basin and other areas of the Midwest.	Nick Grant	Yes	Please provide details regarding the assumptions and limitations of these studies.
4.1.4.2	4-40	19	Editorial – at the end of the line it reads "area mining dragline"; this should be revised to read "area mining using a dragline" or something similar.	Bob Postle	Yes	Apply edit per comment.
4.1.4.2	4-40	28-32	More discussion of effects of habitat loss is needed	Craig Walker	No	Not enough instruction detail.
4.1.4.2	4-40-4-41	39-14	**This paragraph is inaccurate and should be deleted or supported with references supporting its use for land clearing on coal mines in the US today.** Nowhere in the west are herbicides used to clear land. Inclusion of this treatment results in a gross overestimate of the potential for impact form the use of herbicides. The only place herbicides may be used is for the control of noxious weeds. Any	Bob Postle	Duplicate	This comment has been addressed.

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			such application is done in compliance with the approved guidelines for such application thereby minimizing the effect on any population except that of the noxious weed.			
4.1.4.2	4-40	39	I'm not aware of herbicide use for land clearing in mining	Craig Walker, NG	Duplicate	This comment has been addressed.
4.1.4.2	4-41 to 4-42	30-24	The impact of coal fires is overstated. The extent of these fires is very limited and localized. What is the actual acreage extent of these fires? Revise this paragraph to define the actual impact of fires in terms of extent and true impact. This is not a national problem in terms of impact.	Bob Postle	Yes	Discussion is adequate. Citation must be completed
4.1.4.2	4-41	30-36	Define operational processes in line 32.	Bob Postle	Yes	Apply edit per comment.
4.1.4.3	4-45	25-37	A brief discussion of the Forestry Reclamation Approach is needed here. http://arri.osmre.gov/FRA/FRApproach.shtm	Nick Grant	Duplicate	This comment has been addressed.
4.1.4.2	4-43	26	Experience indicates that at mines located in the West large ungulates are not adversely impacted by mining, and in fact tend to move on to mine areas because of the "safe haven" created by mines. In general hunting is prohibited on mines. As a result, regardless of the noise or presence of large equipment or humans, large populations of ungulates make use of mined lands, and mainly reclaimed lands, for both year round and winter range. This positive effect should be recognized.	Bob Postle	No	The discussion is specific to affects of noise.
4.1.4.3	4-45	20	30 CFR 816.22(a)(1) (i) requires that all topsoil shall be removed as a separate layer from the area to be disturbed, and segregated. Only where the topsoil is of insufficient quantity or poor quality for sustaining vegetation, the materials approved by the regulatory authority in accordance with paragraph (b) of this section shall be removed as a separate layer from the area to be disturbed, and segregated 30 CFR 816.22(a)(1) (ii). The statement that topsoil does not necessarily have to be reused on site is inaccurate. The regulations are very specific and must be	Bob Postle	Yes	Apply edit per comment.

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			followed under all conditions. This statement must be revised to correctly characterize the regulatory requirements.			
4.1.4.3	4-45	22	30 CFR 816.111(a)(2) requires that the permittee shall establish on regraded areas and on all other disturbed areas except water areas and surface areas of roads that are approved as part of the postmining land use, a vegetative cover that is in accordance with the approved permit and reclamation plan and that is — Comprised of species native to the area, or of introduced species where desirable and necessary to achieve the approved postmining land use and approved by the regulatory authority. The statement that there is no requirement that native species be used fin revegetation activities is inaccurate. Introduced species may only be used if allowed by the regulatory authority. This statement must be revised to accurately reflect the requirements of the regulations.	Bob Postle	Yes	Apply edit per comment.
4.1.4.3	4-46 to 4-47	40 - 3	As discussed above there is a requirement to reestablish native species. In the west this is the common practice. The assumption that no native species are being used resulting in only low to moderate beneficial impacts is incorrect. This paragraph needs to be revised to reflect the fact that in the west on grazinglands native species are being used with high beneficial impacts. This is a national EIS, not an Appalachia EIS.	Bob Postle	Yes	Apply edit per comment.
4.1.4.3	4-47	1-3	How is the qualitative "low to moderate" beneficial impact for revegetation determined??	Nick Grant	No	Revegetative is fundamental to reclamation. However as a generally rudimentary function, its overall benefit is judged to be low to moderate.
4.1.4.1	4-32	35-39	The discussion on ANFO and ammonium nitrate impacts to aquatic life is pure conjecture. If there were sufficient residual ammonium nitrate we would see these in the mine soils test and algal blooms in the sediment ponds. The amount of ammonium nitrate that is residual after the blast is miniscule compared to the volume of the overburden. I recommend you delete this section completely.	Bill Joseph	Yes	Delete this discussion, not supported as a probable or significant source of pollution.

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4.1.4.1	4-34 to 4-38		This review and discussion appears to only apply to portions of the Appalachian Region. This should be expanded to cover the all of the coal fields and citations and references for the other parts of the country. This narrow discussion could lead reviewers into believing that these are standards and analysis of parameters that would apply to all the coal fields. These numbers and reviews would be significantly different for the Mid-West States. Additionally, this discussion should be tied to existing overburden guidelines and associated parameters. Many States have developed overburden guidelines that address many of these parameters. For example the OSM Southwestern guidelines define Selenium as Selenium (Total) < 0.8 ppm marginal and > 0.8 ppm unsuitable for plant growth. The TX Overburden Guidelines define suggested maximums for trace elements like As, B, Cu, Cr, Cd, Mn, Ni, Zn, Pb, and Mo to be placed in the top 4 feet of the leveled terrain surface. The overburden guidelines that I know of cover AL, KS, LA, MO, MT, NM, ND, PA, TN, TX, WV, WY and Federal Lands in the Southwest. There may be more that are defined in State regulations. It would appear that this section should discuss how these guidelines are currently applied to look at trace elements and other parameters in regards to overburden analysis and mine planning. The current text is misleading in regards to the how these parameters are viewed across the country.	Bill Joseph	Duplicate	Several commenters have identified a lack of sufficien discussion for other regions. The EIS Team will work to correct this deficiency.
4.1.4.3	4-45	20	This alternative uses the assumption that "Topsoil does not necessarily have to be reused on-site". The regulations require the salvage of all topsoil and reuse unless you implement soils substitution. Under soils substitution the permittee must	Bill Joseph	Duplicate	This comment has been addressed.

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			demonstrate that the substitute material is equal or more suitable than the existing topsoil. So the soil resource that is placed back on the mined surface is the best available soil material that is best able to support the intended post mining land use.			
4.1.4.3	4-47	7	Need to include soil replacement or soil substitute handling in this sentence. Soil salvaging and replacement is a major component of surface mining operations.	Bill Joseph	Yes	Apply edit per comment.
4.1.5	4-50	29-33	These several sentences lead me to believe contamination O.K. until it is diluted. What about stream contamination levels prior to sufficient flow?	Dawn Pacula	No	Impacts to water quality are related to impacts to recreational resources.
4.1.5	4-51	40	Suggest rewording sentence: Section 522 requirements provides an avenue for evaluating and potentially preventing...surface mining activities	Foster Kirby	Yes	Apply edit per comment.
4.1.5.2	4-53	3	Recommend changing EISs to a more general "NEPA evaluations" that are completed....	Foster Kirby	Yes	Apply edit per comment.
4.1.5	4-48	2-10	This land use discussion about level plateaus is based on the presumption that AOC variances have been granted allowing alternate land uses such as residential or industrial. Mined areas without AOC variances, which are the vast majority of reclaimed areas in Appalachia, should be reclaimed to AOC and should therefore not be level plateaus. The context of this discussion should be qualified to indicate that the plateaus reclaimed areas are limited to areas where AOC variance have been grant and NOT to all areas where coal is surfaced mined in Appalachia.	Paul Ehret	Yes	Language will be included that details the specific requirements with respect to Mountain Top Mine removal and post mine land uses. The information provided has not adequately described the differences between MTR and Steep Slope area mining.
4.1.5	4-48	5	More correctly some argue that mining can enhance "the opportunity for developmental" land uses.	Paul Ehret	Yes	Apply edit per comment.
4.1.5	4-48	10	The stability problem is doubtfully related to "topsoil" as stated. More correctly the stability concerns would be related to "deferential settlement" of replacement spoil. In Appalachia	Paul Ehret	Yes	Revise language per comment.

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			replacement topsoil is extremely thin or virtually non-existent. Instability has nothing to do with the topsoil.			
4.1.5	4-50	6-20	There are numerous examples in the Illinois Basin, particularly in Illinois and Indiana where large tracts of corporate held surface mine lands have been either donated, sold or leased to state wildlife or recreation agencies for public use after the completion of reclamation. The opportunity to acquire these large tract holdings into the public domain is extremely significant in states where public owned recreational land otherwise makes up only a very small percentage of all lands within the state boarders. Information on these "conversions" to public lands after mining may be acquired by contacting both Indiana and Illinois DNR agencies.	Paul Ehret	Yes	Add discussion describing examples of 'conversions' as described in comment.
4.1.5.2	4-52	35	Add the word "removal" so that the term now reads "mountaintop removal" mining. Mountaintop mining is NOT a defined term under SMCRA, and "mountaintop removal" is at 30 CFR Part 824.	Paul Ehret	Yes	Revise language per comment.
4.1.5.3	4-54 (4-53)	5 (17)	Acronym PMLU is used. Previously, and elsewhere within the document (line 17) the full term postmining land use is used rather than the acronym. The document should be reviewed for the proper use and placement of acronyms.	Paul Ehret	Duplicate	All acronyms shall defined and used consistently prior to finalization.
4.1.3.3.1.2	4-26	19-37	What about a discussion of the remaining regions – not just Appalachia and the Colorado Plateau?	OSM Hydro Team	yes	Discussion should be comprehensive of all mine regions or a discussion provided regarding omission.
4.1.1	4-5	16	Based on production information provided by OSM, the total 2008 production for the Gulf Coast region should be 45.7 million tons per year (assuming AR, LA, MS and TX comprise the Gulf Coast region) and the underground mining production should be 0.1 million tons per year (for AR) with like	John Caudel (Texas)	Yes	Review comment an apply changes as applicable.

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			adjustment to the surface mining production.			
4.1.3.3.1.1	4-26	12-17	These statements are depicted as a general statement for mined lands across the nation, but based on the wording may only be applicable to certain surface mining techniques used in specific regions of the country. For mining in the Gulf Coast region, there is no "traditional compaction of spoil" that would increase peak flows and flooding potential. In addition, the watershed response is highly dependent on vegetation and is variable over time as reclamation matures.	John Caudel (Texas)	No	This statement is only a generality and not necessarily considered applicable in all areas of the country.
4.1.4.1	4-30	38-41	The characterization of conclusions of the report by Rohasliney and Jackson (2008) is incomplete and as described in this text leaves out the main conclusion that channelization of streams from mining had little adverse affect to streams and biota.	John Caudel (Texas)	Yes	The cited reference will be reevaluated and changes applied as applicable.
4.1.4.1	4-31	27-28	This first sentence of this paragraph amazingly ignores the protections afforded under SMRCA and State programs to minimize off-site impacts from mining activities.	John Caudel (Texas)	Duplicate	This comment has been addressed.
4.1.4.1	4-31	28-30	NPDES monitoring (or monitoring under approved state programs) is not performed on a quarterly basis as implied in this sentence. Reporting of the monitoring data	John Caudel (Texas)	Duplicate	This comment has been addressed.

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			is quarterly, but monitoring is done on a daily/weekly basis depending on the state program.			
4.1.4.1	4-38	12-13 & 17-18	This discussion is the final paragraph of a discussion of the impacts to streams from increased sulfates resulting from mining activities. They are inflammatory when taken together. The statement that "current and past coal mining practices have resulted in major adverse impacts to aquatic resources as some sites" is very broad and paints an unfair picture. Many mines have produced no such major adverse impacts. The statement that these "adverse impacts can and do occur with all mining methods and in all coal regions" is unsubstantiated.	John Caudel (Texas)	Yes	The comment "adverse impacts can and do occur with all mining methods and in all coa regions" insufficiently substantiated. Revise language,
4.1.4.2	4-41	30-36	This generalized paragraph regarding fires at mines seems to be focused on fires in coal, but it is not clear from the way fire is characterized as an ongoing problem "at active and abandoned coal mines." There is no evidence that mine fires are a problem at any mines in the Texas or the Gulf Coast region.	John Caudel (Texas)	Duplicate	This comment has been addressed.
4.1.4.3	4-47	15-16	The statement that reclaimed constructed soil is often a poor medium for plant growth is overbroad. In Texas, where topsoil and subsoil substitution is widely used, postmine "constructed" soils have	John Caudel (Texas)	Yes	Provide discussion detailing examples where 'constructed' soils have been proven beneficial.

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			consistently outperformed premine soils and hundreds to thousands of acres of postmine "constructed" soils have been classified as prime farmland soils by the NRCS.			
4.1.4.3	4-47	22-23	This statement is overbroad. To indicate that reclamation and revegetation programs "have often failed to restore ecological functions in the affected streams and uplands" is unsubstantiated and leaves the impression that most reclamation is unsuccessful. This is not represented by on the ground results from all SMCRA programs.	John Caudel (Texas)	Yes	The comment is a significant generalization and not fully substantiated. Revise language.
4.1.6.1.1.1	4-57	2	The employment number for underground mining in the Gulf Coast region is incorrect as the only underground mining is in Arkansas, representing an annual production of about 100,000 tons.	John Caudel (Texas)	Yes	Review comment and revise as applicable.
4.1.6.1.2.1	4-58	14	The estimated personal earnings for underground mining in the Gulf Coast region is incorrect.	John Caudel (Texas)	Yes	Review comment and revise as applicable.
4.1.6.1.4	4-61	1	The AML collection amounts for the Gulf Coast region are incorrect. For 2008 only about 100,000 tons were produced from underground mining in Arkansas. Total collections for the Gulf Coast region states (TX, LA, AR, and MS) as reported by OSM in their 2008 annual report were $4,857,546.	John Caudel (Texas)	Yes	Review comment and revise as applicable.

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4.1.6.1.4	4-64	1 & 11	The data for the Gulf Coast region reported in these two tables appears to be incorrect for the Gulf Coast states of TX, LA, AR, and MS.	John Caudel (Texas)	Yes	Review comment and revise as applicable.
4.1.6.4.2.1	4-67	6	In this paragraph the Gulf Coast region is characterized as comprising three states when it should be four states. This error is repeated in all analyses where the impacts by region are broken out separately in Chapter 4.	John Caudel (Texas)	Yes	Apply changes per comment.
4.1.6.4.2.3	4-69	24-29	There is no coal haulage in TX that is over public roads. Coal is hauled primarily by truck on private haul roads internal to the permit areas.	John Caudel (Texas)	Yes	Apply changes per comment.
4.1.3.1.1.2	4-12	24	Please acknowledge the Fill Placement Optimization Process (FPOP) is a guidance document issued by the Kentucky Department for Nature Resources-Reclamation Advisory Memorandum (RAM) # 145. This would be consistent, then, with the acknowledgements of state regulatory guidance documents of New Mexico and Virginia found on page 4-124, lines 10-21.	(Richard Wahrer & Paul Rothman Kentucky Dept. for Natural Resources)	Yes	Apply changes per comment.
Table 4.1.4-2	4-34		Column heading "Range of Concentrations from Downstream of Mine Sites": More information is needed-how many sites and how far	(Richard Wahrer & Paul Rothman Kentucky	No	Table is adequate. The studies are fully cited.

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			downstream? Please verify (or refute, with the correct information) that the Pond (2008) study involved 37 sites in West Virginia and then, footnote those facts.	Dept. for Natural Resources)		
4.1.4.1	4-34-4-37		General Comment: In regards to the review of contaminants associated with mining: the comparison of the Pond (2008) study and the Hartman et al. (2005) study lists results that are confusing, contradictory and ambiguous against the backdrop of mined sites, un-mined sites, mine-filled watersheds and reference streams. Levels of these contaminants may show no difference between mined and unmined sites though watersheds may show greater amounts and often compared to reference streams. It could be argued that an unmined site should be a reference for a mine site. Reference streams may not be subject to any activity or disturbance in the area. Mine-filled watersheds may reflect other than mining impacts. A more detailed discussion of these studies may provide much needed clarification.	(Richard Wahrer & Paul Rothman Kentucky Dept. for Natural Resources)	No	The studies referenced with respect to contaminants are fully cited and relevant to water quality impacts.
4.1.4.2	4-44	2-3	The sentence "Mining and associated activities can produce noise far above	(Richard Wahrer & Paul	No	The statement is acceptable.

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			normal ambient levels" is merely stating the obvious. Normal ambient levels in many of the hollows of eastern Kentucky is extremely low due to the complete lack of noise-generating elements. Please delete this sentence.	Rothman Kentucky Dept. for Natural Resources)		
4.1.4.3	4-46	34-35	The sentence "...salamanders were not found on reclaimed mine sites of varying age and cover types in Appalachia.." is just completely incorrect. KYDNR invites the author and all interested parties to come see the salamanders on our reclaimed sites in Kentucky.	(Richard Wahrer & Paul Rothman Kentucky Dept. for Natural Resources)	yes	Insert - "For example, salamanders were not found on **select** reclaimed mine sites of varying ages and cover types in Appalachia (Carrozzino, 2009),
4.1.3.1.1.2	4-14	13, 15	This section refers to Table 4.1.3-2 titled "Predicted Regional Stream Impacts (mi/yr) by Alternative". First, the table contains the word "Impacts" while line 13 indicates the table presents the predicted stream "loss". An "impact" does not equate to a "loss" in all instances and this section should be revised to indicate it as such. Second, the number of miles per year of regional stream impact is perplexing. Specifically, for the Illinois Basin, a slightly less number of perennial stream impact is shown than that estimated for intermittent. A very small number of "other" is stated. We are not aware of "other" as a stream type defined within SMCRA and assume this to account for ephemeral streams. Moreover, assuming "other" takes into account ephemeral streams, the numbers appear to be significantly misrepresentative of the Illinois Basin. The public notices for U.S. Army Corps of Engineers 404 permit applications routinely show a much higher percentage of linear feet of ephemeral stream for	(Indiana DNR, Bruce Stevens)	Duplicate	The methodology used to delineate streams impacted is described in the methodology section. Better description will be provided.

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			Indiana coal mining operations than does this table. It is our position this information should again be researched and reconsidered in order to put forth numbers representative of the Illinois Basin.			
4.1.3.1.1.3	4-15	11 – 13	This section discusses underground mining affecting groundwater levels primarily through blasting activity and subsidence. It goes on to state that blasting breaks up the impermeable layers of rock material above the coal seam, thus providing additional flow paths and resulting in dewatering of the aquifer located above the coal seam into the underground mine voids. We are perplexed at this statement. Illinois Basin underground mining activities do not utilize blasting activities to break up impermeable layers of rock material above the coal seam. We are not clear if this was an unintentional mixing of information relevant to surface mining activities or if it is a lack of knowledge as to how underground mining activities occur. Obviously an underground coal miner would not want blasting, or any activity, to break up the overlying materials to assist in removal of the coal seam, This section needs clarified or revised.	(Indiana DNR, Bruce Stevens)	Duplicate	This comment has been addressed.
4.1.4.3	4-45	20	This line states "Topsoil does not necessarily have to be reused on site." We are confused as to the meaning of this sentence as all topsoil must be removed and replaced in the permitted area. If topsoil does not have to be reused on site currently then what other areas does OSM believe topsoil can be utilized?	(Indiana DNR, Bruce Stevens)		This comment has been addressed.
4.1.4.3	4-47	4	Reclamation activities typically entail backfilling, regrading, soil replacement, and revegetation. This section does not indicate soil replacement as being necessary. This is a very important requirement for reclamation activities in the Illinois Basin and a again shows a focus on other regions of the country yet applicability to all even though circumstances are different region to region.	(Indiana DNR, Bruce Stevens)	Duplicate	This comment has been addressed.

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4.1.4.3	4-47	15 – 16	These lines state the most common use of reclaimed mine lands is hay and grass pastureland because the constructed soil is often a poor medium for plant growth. The reference is to a publication by Simmons et al., 2008. This again seems to be a statement being made relative to coal mining operations in other areas of the nation. Although we are not familiar with this publication, this section should be revised because not all regions are similar. In particular, the predominate land use in Indiana is prime cropland and nearly three decades of proof of productivity demonstrates replaced soil materials are not a poor medium for plant growth.	(Indiana DNR, Bruce Stevens)	Duplicate	This comment has been addressed.
4.1.2.2	4-7	18-21	Placing excess spoil on abandoned mine benches will accomplish reclamation of AML areas back to AOC that otherwise will never be accomplished through Title IV funded projects. There simply will not be enough AML dollars to accomplish Priority 3 reclamation.	(Bradely Lambert, Virginia DMME)	No	This discussion applies to active mines placing material on abandoned mine benches.
4.1.3.1.1.1	4-11	1-2	Improvements to water quality realized by remining and reclaiming to current standards should be referenced. Virginia has documented areas where the remining of abandoned coal mine lands has significantly improved water quality. Data submitted to EPA by Virginia and Pennsylvania for development of the EPA remining rule, recognizing improvements in water quality through remining, should be used in this EIS.	(Bradely Lambert, Virginia DMME)	Duplicate	This comment has been addressed.
4.1.3.1.1.2	4-11	16-20	Please add a reference for the "normalizing" for BTU, with the math and the reasoning. Also, multiple seam mining in the Appalachian Basin can yield greatly varying ratios of disturbed area per million tons of coal.	(Bradely Lambert, Virginia DMME)	No	Normalization details are provided in section 4.7 describing methodology. The EIS Team will include greater details regarding the assumptions of the methodology prior to finalization.
4.1.3.1.1.2	4-14	Table 4.1.3-2	Tables estimating production figures are suspect as they assume current production levels to be maintained. Production levels in some eastern states have significantly declined over the past 20 years, and continuing declines are expected even if	(Bradely Lambert, Virginia DMME)	No	Production details are provided in section 4.7 describing methodology. The EIS Team will include greater details regarding the assumptions of the methodology prior to finalization.

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			regulations do not change.			
4.1.3.1.3	4-15	11-13	The impacts of underground mining on groundwater hydrology may be overstated here. Blasting is rarely used in modern underground mining; primarily for overcasts. Also, subsidence does not always occur.	(Bradely Lambert, Virginia DMME)	Duplicate	This comment has been addressed.
4.1.3.1.1.3	4-16	29-30	Water supply wells are not affected due to blasting in underground mines; see previous comment. Subsidence can enhance existing fracture zones, resulting in a lower water table. Sometimes, this is a temporary impact, with some wells recovering and others having even more water due to increased storage.	(Bradely Lambert, Virginia DMME)	Duplicate	This comment has been addressed.
4.1.3.1.1.3	4-17	1	...geologic and hydrologic conditions (**climate and variation in precipitation**).	(Bradely Lambert, Virginia DMME)	N o	Hydrologic conditions assumes climate and precipitation.
4.1.3.1.3	4-17	14-15	Assumptions 6 and 7 are not valid on all operations. Nearly all operations are reclaiming areas according to the Forestry Reclamation Approach, with loosely compacted soils and soils that are better for tree growth than native soils.	(Bradely Lambert, Virginia DMME)	No	The presented list is generalized at the national scale.
4.1.3.1.3	4-22	Table 4.1.3-3	The general conclusions fail to note that remining of abandoned mine lands can actually improve groundwater hydrology. Virginia has documented cases of this. On one TMDL stream, remining was the component of the implementation plan. Benthic scores are improving in this watershed to a point where regulators can see a delisting potential. (see previous general comments)	(Bradely Lambert, Virginia DMME)	No	The presented list is generalized at the national scale.
4.1.3.2.1.1	4-23	29-31	All permits are including the Forestry Reclamation Approach. Implementing this reclamation will reduce peak flows and rapid hydrologic responses to storm events.	(Bradely Lambert, Virginia DMME)	Duplicate	This comment has been addressed.
4.1.3.2.1.1	4-23, 24	35-36, 1-2	It is misleading to assume that excess spoil disposal will continue as it has in the past. Current events show this will not continue. This activity has been and will continue to be curtailed by state regulators	(Bradely Lambert, Virginia DMME)	No	While circumstances are changing this rulemaking initiative will assure greater standardization as may be needed to address common concerns.

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			and other federal agencies. Typical Virginia fills are not as large as those found in West Virginia and Kentucky. Virginia typically has the lowest percentage of excess spoil generated placed in fills; much is used in AML reclamation.			
4.1.3.3.1.1	4-26	9-17	These references to surface water impacts are not anticipated for permits reclaiming to the forestry reclamation approach. All forest post-mining land use on Virginia permits utilize FRA.	(Bradely Lambert, Virginia DMME)	Duplicate	This comment has been addressed
4.1.3.3.1.2	4-27	6-10	The reference assumes that mining occurs on virgin lands. This is not the case in the Virginia coalfields, where mining almost always includes areas mined prior to SMCRA.	(Bradely Lambert, Virginia DMME)	Yes	Remining needs to be addressed in more detail.
4.1.4	4-28	Table 4.1.4-1	This annual increase would likely not occur due to more stringent regulatory requirements and overall production declines in the Appalachian basin. For example, current permit applications received in Virginia are for the most part avoiding disturbance within jurisdictional waters in order to avoid 404 permit issues. This, in addition to other avoidance and minimization measures, is reducing the footprint area of proposed permits.	(Bradely Lambert, Virginia DMME)	Yes	The title of this Table is suggest the values presented are increase. These values appear to annual projections not increases relatives to another annual rate. Please review and determine if the title is accurate.
4.1.4.1	4-28	12-16	Given the previous comment, this assumption of miles of stream impacts is invalid. Therefore, conclusions drawn from such assumptions are also invalid. The length of stream impacts will not be a static figure.	(Bradely Lambert, Virginia DMME)	No	The values presented in Table 4.1.1-1 are detailed in the methodology section 4.7.
4.1.4.1	4-29	17-41	This section only discusses adverse impacts but does not include any positive impacts. For completeness, the discussion should also reference habitat restoration accomplished through mining and reclamation. Specifically, forested fragments are reconnected, AML highwalls are eliminated with severed stream segments reconnected, and AMD can be eliminated.	(Bradely Lambert, Virginia DMME)	Yes	Environmental benefits will be much more thoroughly discussed in the redraft of Chapter 4
4.1.4.1	4-30	33-34	This reference is misleading. Sediment control measures must be in place prior to any surface mining activities other than roads. In Virginia, roads	(Bradely Lambert, Virginia	Yes	Insert - ~~Following~~ **Prior to** the creation of roads at new mine sites, erosion **and sediment** control **measures** ~~such as sedimentation ponds~~ are ~~usually constructed~~

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			must also have ditches and sumps.	DMME)		**implemented** to prevent sediment from running off into nearby streams.
4.1.4.1	4-31	27-30	The "quarterly basis" monitoring frequency is misleading. In Virginia, NPDES reporting is quarterly; monitoring is conducted twice a month.	(Bradely Lambert, Virginia DMME)	Yes	Insert - "National Pollutant Discharge Elimination System (NPDES) monitoring would continue ~~on a quarterly basis for a suite of contaminants~~ **per permit requirements.**
4.1.4.1	4-32	16-25	Acid mine drainage is almost exclusively an AML problem in Virginia. Permitted AMD sites were legacy sites, existing prior to the Permanent Program, that were permitted. AML occurrences should be noted here.	(Bradely Lambert, Virginia DMME)	No	The paragraph only describes the affects of AMD.
4.1.4.1	4-34	Table 4.1.4-2	The range of concentrations may be influenced by waters from non-point sources such as abandoned mine lands and non-mining sources such as gas well, logging and residential disturbances. It should also be noted that regulatory agencies would issue violations for discharges that exceed NPDES limitations and/or ambient water quality standards.	(Bradely Lambert, Virginia DMME)	No	The presented referenced documents are acceptable.
4.1.4.1	4-35	4-5	The referenced concentrations of calcium are 2X the levels noted downstream from mine sites. This should be clarified in the report as it is misleading and suggests that mine discharges will result in reduced survival of eggs from the referenced fish species.	(Bradely Lambert, Virginia DMME)	No	The presented referenced documents are acceptable
4.1.4.1	4-35	30-35	Published reports conflict on concentrations of many chemicals in water. The conflicts will be difficult to evaluate for decision makers. The discrepancy in Pond, et al (2008) and Hartman (2005) demonstrates this problem.	(Bradely Lambert, Virginia DMME)	No	The presented referenced documents are acceptable.
4.1.4.1	4-38	12-20	This section does not adequately address impacts from pre-SMCRA operations. While SMCRA permitted stream impacts have been documented, there has been not effort to quantify pre-SMCRA impacts. Since coal mining has been occurring in Virginia the 1700s, it is more likely that there have been more stream impacts from pre-SMCRA mining than from SMCRA permitted sites in Virginia.	(Bradely Lambert, Virginia DMME)	No	Impacts to water quality are predicted relative to the provisions under the range of alternatives. Impacts to water resource from pre-SMCRA sites is not evaluate in Chapter 4 and is described in the Chapter 3: Affected Environment.
4.1.4.2	4-39	3-16	Mining and reclamation on previously mined lands will reconnect fragmented habitats.	(Bradely Lambert,	No	The statement is speculative and no references have been provided.

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				Virginia DMME)		
4.1.4.2	4-39	31-41	Mining should not be singled out as the only land disturbance allowing colonization by alien invasive plant species. For example, logging clears significant areas each year with minimal regulatory oversight while SMCRA permit reclamation plans prohibit use of invasive species.	(Bradely Lambert, Virginia DMME)	No	This EIS is evaluates potential mining related impacts not logging impacts.
4.1.4.2	4-40	3	Transporting equipment on mine sites is an insignificant avenue for dispersal of invasive species as opposed to commercial transportation on the nation's highways.	(Bradely Lambert, Virginia DMME)	No	The statement is qualified as "...has the potential.."
4.1.4.2	4-40, 41	39, 1-14	Herbicides are not used for clearing of land prior to mining. Herbicides are occasionally used for spot treatment to promote tree growth in reforestation.	(Bradely Lambert, Virginia DMME)	Duplicate	This comment has been addressed.
4.1.4.2	4-41	30	Narrative states that fire is an ongoing problem. However, the number of reported fires includes minor ignitions in underground mines. There have been no known fires in abandoned mines in Virginia for many years, and all of the rare occurrences of fires in active mines have been extinguished. Examples of mine fires, such as Centralia in Pennsylvania, are extremely rare and should not be used as an example of ongoing problem. Typical underground mine fires do not cause adverse environmental impacts or destruction of surrounding habitat.	(Bradely Lambert, Virginia DMME)	Duplicate	This comment has been addressed.
4.1.4.3	4-45	22	Other than for hayland/pasture post-mining land use, native species are predominately used in reclamation.	(Bradely Lambert, Virginia DMME)	Duplicate	The line will be deleted.
4.1.4.3	4-45	34-37	Research by Burger et al at the Powell River Project has shown that native hardwoods often have a better site index on mined lands reclaimed using FRA than native hardwoods growing on adjacent unmined areas. This research should be noted as well.	(Bradely Lambert, Virginia DMME)	Yes	Review published findings regarding the FRA.
4.1.4.3	4-47	15-16	Hayland/pasture is not the most common post-mining land use in Virginia. If this statement is retained, it	(Bradely Lambert,	Duplicate	A greater level of analysis is required for describing dominant post mine land uses per region. The genera

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			should be properly documented with exact numbers.	Virginia DMME)		statement may erroneous and will be re-evaluated.
4.1.4.3	4-47	20-23	This is not a scientifically valid statement. Short term, there are disruptions. Over a longer period, Virginia experiences show that ecological functions are restored on mined lands.	(Bradely Lambert, Virginia DMME)	Yes	Inseret – "In summary, current and past coal mining practices have resulted in major adverse impacts to terrestrial and aquatic resources at some sites, and mining **in some instances** reclamation programs have not adequately mitigated the impacts."
4.1.5	4-49	14-17	Corporate landowners are often reluctant to sell lands even after mining. There are other possible revenue streams to consider. In Virginia, the large, older, traditional coal companies that owned property in fee often sold surface rights to companies engaged in the forest product industry. Also, land holding companies that do not directly mine coal have granted nonexclusive right-of-entries to the same property to different companies for diverse activities such as mining, logging, gas well drilling. This provides multiple streams of revenue for the land holding companies. Typically these areas are reclaimed to forest lands.	(Bradley Lambert, Virginia DMME)	No	Comment noted.
4.1.5	4-49	5	Delete and replace end of sentence with ...state wildlife agencies or **"are posted with no trespass signs in order to avoid potential liability for personal injuries that may occur on their property."**	(Bradely Lambert, Virginia DMME)	Yes	Delete – ~~"However, much of the corporate-owned lands subject to surface mining are either open to free public access through agreements with state wildlife agencies or treated as "no man's land" and trespasse upon by the public."~~
4.1.5.3	4-53	17-21	The statement of post-mining land uses going to hayland/pasture is not a true statement for Virginia. In Virginia, the majority of coal nine reclamation returns land to an unmanaged forest, post-mining land use.	(Bradely Lambert, Virginia DMME)	Yes	A greater level of analysis is required for describing dominant post mine land uses per region. The genera statement may erroneous and will be re-evaluated.
4.1.5.3	4-53	Table 4.1.5-2	Data in this table are misleading and are not specific to mining and reclamation. Within the Virginia coalfield, the majority of land is being restored as unmanaged forest. Data from the Virginia Department of Forestry contradicts the general trend	(Bradely Lambert, Virginia DMME)	Duplicate	A greater level of analysis is required for describing dominant post mine land uses per region. The genera statement may erroneous and will be reevalauted.

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			depicted in the table. For example, Virginia currently has 15.72 million acres of forestland while in 1940 the total was 14.8 million acres. Currently, 79% of Virginia's timberland is hardwood while softwood is 21%. In 1940, 57% was hardwood and 43% was softwood. Virginia's total hardwood volume has increased by 94% since 1940. Since 2001, urbanization and development is the biggest single factor in the loss of forestland acreage. 64% of this loss was due to urban development and 30% due to agriculture with the remaining 6% due to all other land uses.			
4.1.61.	4-55	11-14	Did the authors of the EIS consider census data for population trends? There is a continuing out-migration of people from the Appalachian coalfields, and any loss of jobs would hasten the exodus.	(Bradely Lambert, Virginia DMME)	No	This analysis is beyond the extent of this EIS
4.1.6.1.1.2	4-57	5-9	Employment in the mining industry in Virginia continued to decline during the past decade, not grow as indicated in the EIS. The authors should consult state agencies for employment numbers.	(Bradely Lambert, Virginia DMME)	Yes	Please review the comment and revise as applicable.
4.1.6.1.4	4-61	Table 4.1.6-5	It must be noted that much of the AML fund distributions are prior balance funds that will be paid out by 2015. At that time, any changes in Appalachian basin funding may have significant impacts on AML grants to Appalachian basin states. The AML funding equation is very complex and even though some alternatives don't impact actual fee collections, AML grants may be considerably impacted. The EIS should also consider impacts to the United Mine Workers of America (UMWA) combined benefits fund, which is supported to a large degree by AML dollars. The use of the AML fund for the UMWA pension fund is also now under consideration.	(Bradely Lambert, Virginia DMME)	No	Impacts to AML funding are discussed in the Socioeconomic Impacts.
4.1.6.1.4	4-62	8-15	There is no indication that the referenced reports regarding impacts on the Kentucky and West Virginia state budgets were peer reviewed. Any conclusions from this should not be considered above the level of	(Bradely Lambert, Virginia DMME)	No	All referenced/cited material will evaluated in accordance with OSM peer review policies.

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			personal opinion, and should be entirely discarded from a scientifically based EIS.			
4.1.6.4.2.2	4-68	5	Insert Appalachian Basin as Header.	(Bradely Lambert, Virginia DMME)	Yes	Apply edit per comment.
4.1.7.1.2	4-72	4-8	The funding impacts to state/tribal AML programs must be analyzed to detail impacts to program's ability to eliminate human health and safety impacts from pre-SMCRA mining.	(Bradely Lambert, Virginia DMME)	No	Impacts to AML funding are discussed in the Socioeconomic Impacts.
4.1.2.2	4-8	19	Fix and make uniform the reference to fill stability study, here and in following paragraphs.	**State of Utah (c/o Dana Dean or Peter Brinton)**	Duplicate	All quotations will be completed and accordingly referenced.
4.1.2.2	4-8	27	Fix and make uniform the reference to fill stability study.	**State of Utah (c/o Dana Dean or Peter Brinton)**	Duplicate	All quotations will be completed and accordingly referenced.
4.1.1	4-5	10-12	We understand the 2008 Stream Buffer Zone and "excess spoil minimization" rules complicate the description of the no change Alternative 1. However, the way Section 4.1 is currently written, it appears that the "No-Change" Alternative 1 might actually be changing things as part of the EIS (eg. "land elements under Alternative 1 would change requirements related to surface configuration and fills..." lines 6-7, p4-7). It is questionable whether the 2008 rule can be portrayed as baseline now, if it was overturned. It would probably help here to give additional explanation about the 2008 rule and why actions outside this EIS are currently changing the "No-Change" Alternative. If there are other known actions (such as pending state or federal regulations) that would cause existing	**State of Utah (c/o Dana Dean or Peter Brinton)**	Duplicate	No Action Impact and shift predictions. Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.

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			conditions to change independent of this EIS, they should be clearly identified and then discussed in this section, and possibly in the Cumulative Effects section.			
4.1.2.2	4-7	6-7	Consider: "land elements under Alternative 1 would change requirements related to surface configuration and fills..." The way this section is currently written, it appears that the "No-Change" Alternative 1 might actually be changing things as part of the EIS.	**State of Utah (c/o Dana Dean or Peter Brinton)**	Duplicate	No Action Impact and shift predictions. Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
4.1.2.2	4-7	26	Alternative 1 itself does not propose to change the previous regulations related to AOC variances. The way this section is currently written, it appears that the "No-Change" Alternative 1 might actually be changing things as part of the EIS.	**State of Utah (c/o Dana Dean or Peter Brinton)**	Duplicate	No Action Impact and shift predictions. Deficiencies in clarity, conciseness and required level of detail have been noted by other reviewers throughout the document and are noted. The EIS Team will work to resolve this deficiency prior to finalization.
4.1.3-2	4-14	TABLE 4.1.3-2	Headings on left are cutoff	**State of Utah (c/o Dana Dean or Peter Brinton)**	Yes	Apply edit per comment.
4.1.3.1.1.3	4-18	10-12	In western coal basins, "Recharge to the upper aquifers in the landscape takes place largely during the snowmelt period. Rainfall during winter and early spring can also be effective in recharging the upper aquifers in the landscape. *[Where does the quote within the quote end, and who is being quoted?]*	**State of Utah (c/o Dana Dean or Peter Brinton)**	Yes	All quotations must be completed and accordingly referenced.
4.1.4.1	4-33	14-16	Should this sentence be bulleted?	**State of Utah (c/o Dana Dean or Peter Brinton)**	Duplicate	This error has been addressed.
4.1.4.3	4-45, 4-46	22, 40	Under current regulations, native species ***are*** required in site regulation unless explicitly approved by the RA. 30 CFR ~816.111 (a)(2) : Comprised of	**State of Utah (c/o Dana Dean**	Yes	Delete third bullet. Native species are required by the No Action alternative.

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			species native to the area... ~30 U.S.C. 1265 (b) (19)...and permanent vegetative cover of the same seasonal variety **native** to the area of land to be affected. Additionally, it is important to allow non-native vegetation in some cases, such as in the Western United States where in drier areas where non-native species can be beneficially used as nurse crops.	**or Peter Brinton)**		
4.1.4.3	4-47	15,16	The Simmons et al 2008 paper only assessed reclaimed mine lands in Appalachia. This statement is not true for the entire U.S. The majority of reclaimed mine land in Utah has not been converted to pastureland.	**State of Utah (c/o Dana Dean or Peter Brinton)**	Yes	Include postmine landuse of grazing and wildlife habitat.
4.1.6.1.2.2	4-59	3,6-7	Give the reason for the lack of more specific data by region (compared to that of other resources).	**State of Utah (c/o Dana Dean or Peter Brinton)**	Yes	Address comment with regional data consistent with defined coal regions or explain why not analyzed to the defined regional level.
4.1.2.2	4-7 thru 4-9	All	In general, there is no data suggesting a trend toward smaller fills in higher elevations under the current fill minimization policies in WV and KY. This discussion focuses on safety and stability instead of potential impacts to geomorphology and topography. The material on safety and stability is not relevant to this section and should be moved. More analysis of the impacts Alternative 1 will have to geomorphology and topography should be included.	**EPA**	No	There is no trend indentified. The statement only predicts that based upon the provisions of minimization reduced fills are to be expected as the method is more fully applied over time. Stability of fills is very significant and must be discussed.
4.1.2.2	4-9	26-28	The statement that "allowing for AOC variances under Alternative 1 would not change from current practices and would therefore have no effect on topography or geomorphology" is self-contradictory. AOC variances, particularly those associated with Mountaintop Removal, inherently allow for permanent alteration of topography and geomorphology, and a detailed discussion of these effects should be included.	**EPA**	Yes	The EIS needs to indicate that alternate 1 has the maximum potential to change premining topography and geomorphology. However, this is not a change from how the program currently functions.
4.1.2.3	4-9	34-9	This section needs to be re-written and clarified. It is unclear what effect revegetation has on topography and geomorphology from the statements made.	**EPA**	Yes	Revise the language detailed in comment to strictly discuss how topographic diversity enhancers vegetation species diversity through creating varied

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			Avoid passive voice here and make a direct cause and effect link. It sounds as if revegetation will be affected by topography but not the other way around.			soil profiles and moisture regimes.
4.1.3.1.1.1	4-10	5	First line is very awkward: what is meant by water supply resources? Suggest different language such as "water supplies" and be specific as to which type are affected in each instance, whether coal industrial supplies, or public drinking water supplies, etc.	EPA	Yes	Provide details regarding the range of regional water uses.
4.1.3.1.1.2	4-12	17	Under Alternative 1, the Forest Reclamation Approach will not be required, and is currently not required. The assumption that further adoption of this approach will occur without regulatory requirement or incentive should not be included here, and the subsequent environmental benefits with regard to hydrology, surface water, and physical elements of water, may not be realized under Alt. 1.	EPA	Yes	Include details regarding the how widely the FRA approach is utilized and include any regulatory provisions or guidance that supports the use of the FRA method.
4.1.3.1.1.2	4-14	3-9	Overall, this paragraph is awkward and unclear. In addition, the sample size of five permits is very small. What was the control? How many permits were analyzed as part of the control sample?	EPA	No	The findings are sufficient.
Table 4.1.3-2	All	4-14, 4-15	It would be beneficial to include ephemeral stream impacts when evaluating and comparing alternatives.	EPA	No	The chosen methodology precluded including impacts to length of ephemeral streams.
Table 4.1.3-2	4-15		The total stream mileage impacts of the Preferred alternative are only 15.3% less than the No Action Alternative. We would like to work with OSM to better understand how these impact assessments were determined, given the fact that Alternative 5 appears to have only a relatively minor effect on stream impacts as compared to the no-action alternative.	EPA	Yes	EPA and OSM will work together to address this concern in greater detail.
4.1.3.1.1.3	4-16	33-35	Decreases in flooding potential from valley fills should be compared to increases in flooding potential due to decrease in vegetative cover, increase in exposed substrate, and subsequent increases in runoff, especially during construction.	EPA	Yes	Review document and verify discussions detailing the potential affect of mine reclamation increasing flooding potential are included.
4.1.3.1.1.3	4-17	5	"Mountaintop" mining is not a real surface mining method, i.e. area mining, contour mining, mountaintop removal mining.	EPA	Yes	Apply changes per comment.

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Table 4.1.3-3	4-18	Entire table	These impacts are based on a 1981 publication, which includes little to no information on impacts from surface mining. Virtually all the impacts discussed in this table deal with underground mining. We suggest incorporating much more current data and analysis that includes (cont.) Comprehensive surface mining impacts. This is especially true in the Central Appalachia, Illinois Basin, and Northern Rockies regions. This should include impacts from blasting, overburden and interburden removal, coal seam removal, fracturing of material and underground layers, impacts to water table and underground aquifers, etc.	EPA	yes	Provide discussion clearly indicating findings of the referenced document cited in comment are finding related to impacts associated with underground mining.
4.1.3.1.2.1	4-23	6-18	This section has very little detail on the impacts and should be strengthened. Perhaps this is currently serving as a placeholder.	EPA	Yes	Provide more discussion of impacts as related to the enumerated provisions (1)-(5).
4.1.3.1.2.1	4-23	20-1	This section has no detail on the impacts and should be strengthened. Perhaps this is currently serving as a placeholder.	EPA	Yes	Insert reference to Chapter 3 Mining Influenced Water Resource Impacts.
4.1.3.2.2.1	4-25. 4-26	31-37, 1-2	Little discussion included here about the actual chemical impacts to surface water. A much more in depth discussion should be included, as impacts that are "currently observed in all regions" are not discussed. No reference to any other section is given if they are discussed elsewhere in the document.	EPA	Yes	Insert reference to Chapter 3 Mining Influenced Water Resource Impacts.
4.1.3.2.2.2	4-26	4-5	As with the previous section, this section needs much more comprehensive detail and thorough discussion.	EPA	Yes	Insert reference to Chapter 3 Mining Influenced Water Resource Impacts.
4.1.1	4-6	1	Table 4.1.1-2 projects 125 ac/yr of underground impacts in the Northwest; however, Table 4.1.1-1 identifies no current underground production in the Northwest. I'm unaware of any potential areas of underground coal production in the Northwest.	OSM Hydro Team	Yes	Please clarify what is meant by the predicted 125ac/yr UG mine impact when no UG mines exist in the NW
4.1.2.1	4-6	12-15	It is true that currently, no correction action thresholds are *required*. The statement as written indicates that there is no environmental protection currently. However, existing regulations require compliance with the Clean Water Act, and existing water quality limits.	OSM Hydro Team	No	Stated correctly in document

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4.1.2.1	4-6	18-19	Discussion of the production shift is inconsistent throughout the Alternatives in Chapter 4. This statement referenced states that there is not a production shift under Alternative 1. Yet, throughout Alternative 1, the sole determination of impacts is based on the observation that a shift away from eastern production has been occurring, and will continue without any rule changes. Discussion of the "shift" should be consistent throughout Chapter 4.	OSM Hydro Team	No	Alternative 1, the no action alternative, will not cause a shift, other than the one that has been currently happening from Appalachia to Powder River Basin.
4.1.3.1.1.1	4-10	20	Table 4.1.3-1 presents the "mining" portion of water use. I recommend adding a footnote to the table that "mining" includes all mining, beyond just coal mining.	OSM Hydro Team	Yes	Revise, as this is true
4.1.3.1.1.2	4-11	7	Editorial, word choice – "degrade". I'm not sure if degradation is a positive or a negative? It would be clearer if "degrade" was replaced with "result in less violations over time", if that's the point being made. Plus, I'm not sure what the basis is for assuming that there will be less violations.	OSM Hydro Team	Yes	Agree. Choose a different word than degrade.
4.1.3.1.1.2	4-12	4	Alternative 1 "assumes the continuation of current trends in regional coal production". It is unclear for Alternative 1 if it's describing the current state of coal mining, or that the trends show less interest in mining in the eastern coal fields.	OSM Hydro Team	No	Alternative 1 explains the current state of mining
4.1.3.1.1.2	4-12	35	BMP's will decrease peak flows, not increase.	OSM Hydro Team	Yes	revise
4.1.3.1.1.2	4-12	40	Reference to activity occurring "predominantly in the CO Plateau". Sediment ponds designs are required to contain the 10/24 event, and is not unique to the CO Plateau.	OSM Hydro Team	Yes	This requirement is in the regulations and pertains to all regions
4.1.3.1.1.2	4-14	7	I don't understand the point in the sentence. I think a word is missing: "stream length *impacted*" maybe?	OSM Hydro Team	Yes	revise
4.1.3.1.1.3	4-15	12-13	Although this scenario is possible, blasting doesn't always induce water into underground mine voids. Recommend separating different points into separate sentences.	OSM Hydro Team	Yes	Duplicate comment.
4.1.3.1.1.3	4-16	3-4	The statement starts by saying "theoretically", which means the statement isn't grounded in reality. Recommned deleting the word "*often*", since we don't	OSM Hydro Team	No	Clear as written

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			have support for the statement.			
4.1.3.1.1.3	4-19	1	Table 4.1.3-3 description of CO Plateau – Utah. The nonmenclature of geologic units varys between CO Plateau states, and it's not considered the Navajo Sandstone in Utah. Recommend a little deletion so that the description reads as follows: "For planned surface mining in Utah, it was concluded that the effect of mining on the near-surface groundwater system would be localized and would not have a significant impact."	OSM Hydro Team	Yes	Consider and revise
4.1.3.1.1.3	4-21	1	Colorado should not be grouped with the Northern Rocky Mtns and Great Plains. Plus, I'm not sure why the groundwater usage is different in the two CO locations on Table 4.1.3-3.	OSM Hydro Team	No	This information originated from published literature, not the contractors.
4.1.3.2.1.2	4-24	24	Delete last sentence. Large-scale surface mining is predominantly in the West, not Applachian region.	OSM Hydro Team	Yes	Revise
4.1.4.1	4-28	12-13	The assumption is that "111 additional miles of perennial and/or intermittent streams are affected each year by coal mining operations." It is unclear if this number takes into account the miles of stream reclaimed.	OSM Hydro Team	Yes	Several comments had confusion over this point. Does "affected stream miles/year" include fills and reclaimed streams that were mined through??? clarify
4.1.4.1	4-31	27-28	Not sure about the point in the sentence. Protections are in place to ensure protection of the hydrologic balance offsite and compliance with the Clean Water Act.	OSM Hydro Team	Yes	Delete the last part of the sentence on line 27, after the word "remain." Keep the NPDES sentence.
4.1.4.1	4-31	33-34	The point of subsided pot-holes becoming wetlands doesn't really come across. Expansion of this point would be useful.	OSM Hydro Team	Yes	Revise as follows…."…..can lower the water table or can cause poor drainage at the surface, including the creation of wetlands and ephemeral water bodies.
4.1.4.2	4-40	30-32	Cryptobiotic soils do exist in the west. However, after verification with OSM western region soil scientist, we are unware of coal mines in the CO Plateau where cryptobiotic crusts are being destroyed by coal mining.	OSM Hydro Team	Yes	Consider and revise, if needed
4.1.4.2	4-44	32-33	There is one active surface coal mine in AK. There are two permitted surface mines in Washington state in "active reclamation", which may resume coal production.	OSM Hydro Team	Yes	No correct as written

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4.1.5	4-48	2-3	This may be a true statement in the east, but not other regions. In the west, wildlife and grazing is the post mining land use. The existing land uses are often not modified, rather, they are maintained and enhanced.	OSM Hydro Team	No	The referenced sentences are not referring to change post-mining land use...like the commenter thinks
4.1.5.3	4-53	17-21	Post-mining land uses may often change in the east, but the uses are preserved or enhanced in the west.	OSM Hydro Team	Yes	Qualify the sentence starting on line 17...Current practice...with..."In the East, current practice often.....
4.1.2.1	4-6	12-15	The statement is made that "material damage to the hydrologic balance outside the permit area would remain undefined and no corrective action thresholds would exist". I take exception to this statement that the State RA (WVDEP) would issue a mining permit that would result in material damage. If on the other hand, if such a significant hydrologic impact would happen, then remedial action(s) would be undertaken immediately. If there is a material damage event, then a close of the operation (CO) would occur and remedial actions would take place according to the permit HRP (Hydrologic Reclamation Plan).	OSM Hydro Team	No	Duplicate comment, which is previously addressed.
4.1.2.1	4-7	1-3	Current EPA and CoE mandates that new and modifications to existing WVDEP SMCRA permits to incorporate and utilize fill minimization and sequencing to their mine plans in an effort to minimize hydrologic impacts to streams.	OSM Hydro Team	No	The sentence just states that fill placement would continue, which is consistent with the comment.
4.1.2.2	4-7	14-15	Re-word to include current (stream) use and "potential" for the foreseeable future for the stream.	OSM Hydro Team	yes	Please consider, but comment not clear
4.1.2.2	4.7	16-17	Incorporate "the minimization of valley fills intro the sentence, just before "decreasing"	OSM Hydro Team	Yes	Consider and revise accordingly
4.1.2.2	4.7	Note	The statement that shales and claystone lithologies occur at higher elevations is an over generalization. These lithostratigraphic units can occur any where in the mine permit area stratigraphic section.	OSM Hydro Team	No	Lines not referenced so comment not clear.
4.1.2.2	4-9	11-12	Sentence 11 should be used in the past tense; this is no longer applicable to mining activities in West Virginia. The statement should be made that end dumping of excess spoil into durable rock fills has ceased in West Virginia. Bottom up construction is the norm, following WVDEP guidelines and policy.	OSM Hydro Team	Yes	Consider past tense comment+ and revise accordingly

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4.1.3.1.1.1	4-10	5-8	The sentence should be clarified to acknowledge and quantify surface and ground water resource withdrawls from underground and surface mining activities. Adding 2 columns (surface and underground mines) to Table 4.1.3-1 would illustrate this point.	OSM Hydro Team	Yes	Include, only if you have the data to quantify the difference in water consumption between surface and UG mining, otherwise ignore
4.1.3.1.1.2	4-11	16-20	This addresses thermal (steam) coal in the Appalachian Basin, but there is no discussion relative to metallurgical coal production. Address.	OSM Hydro Team	No	Duplicate comment...was addressed in other comments and this issue will be addressed in PDEIS
4.1.3.1.1.2	4-11	28-29	No reference to underground mining. Longwall and full extraction mining may result in changes in landscape due to subsidence. Examples are dislocated highways, homes, and changes in stream morphology. Insert the word "potentially" just before "indicative".	OSM Hydro Team	Yes	Please reference UG impacts in this sentence
4.1.3.1.1.2	4-12	27-28	Add a clarifying sentence to state that the FRP reclamation practices may end up in increasing TDS (total dissolved solids). Even though bottom up valley fill construction practice may decrease TDS, an increase in TDS may concentration may occur due directly and indirectly to the non-compactable FRP reclamation practice.	OSM Hydro Team	Yes	Please consider this comment since it is challenging the statements made about the affect of FRP
4.1.3.1.1.2	4-13	24	Add to the end of Sentence 24 "and dependent upon mining method and percent coal extraction"..	OSM Hydro Team	Yes	Consider and revise accordingly
4.1.3.1.1.2	4-13	29	Clarify the sentence with respect to surface and/or underground mining coal production.....	OSM Hydro Team	Yes	Consider and revise accordingly
4.1.3.1.1.2	4-14	10-12	Define stream "impacts" Loss of streamflow (stream impacts) from longwall and full extraction underground go un-documented in WV and I would venture other states as well. Loss and/or impacts to streams from surface mining is much easier to determine rather than from underground mining activities.	OSM Hydro Team	No	The description of impacts has already been provided earlier in the section
4.1.3.1.1.2	4-16	38-39	Add to the end of this sentence " , and are used as underground storage sites for mine-related coal slurry or sludge.	OSM Hydro Team	No	Sentence context is in reference to water quality and water use...
4.1.3.1.1.2	4-19	Table 4.1.3-3	Central Appalachia. The paragraph should have the opening sentence. The impacts of mining on ground	OSM Hydro Team	No	Information taken directly from referenced literature

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			water is largely dependent on the site-specific geology, i.e. lithostratigraphy, fractures, etc. On example of a importance of the local hydrogeology is the WV case that was referenced.			
4.1.3.1.2	4-23	4-21	The statement should be made that a determination of hydrologic impacts is a direct function of the baseline and compliance monitoring program that is assigned to each mining permit. More often than not monitoring programs associated with mining permits are not designed to accurately measure impacts. Monitoring sites should be located strategically with respect to the mining plan and adjacent hydrologic resources.	OSM Hydro Team	Yes	Revise according to the stated concept.
4.1.3.1.1.2.1	4-23	12-13	Add specific conductance to the list of analytes.	OSM Hydro Team	Yes	revise
4.1.3.2.2.1	4-25	36-37	This sentence is not entirely correct. The word "can" should be placed before "lead(s)".... In addition, the sentence should be clarified to define the phrase "contaminated". One example is of a surface mine in Boone Co., WV where a large mountaintop operation was placing and utilizing overburden material in a selective handling plan with success in achieving compliance discharges. Moreover, the operation utilized some of the overburden material as an alkaline addition to an adjacent mine operation that was discharging AMD. The AMD discharge was neutralized by the addition of the overburden material without the use of chemical treatment.	OSM Hydro Team	Yes	I would replace the word contaminated with "mineralized"
4.1.3.3.1.1	4-26	15-17	There is commonly inadequate baseline permit data to accurately determine the pre-mining hydrologic regime.	OSM Hydro Team	No	This is not due to regs, but permit reviewer.
4.1.4.1	4-34	Table 4.1.4-2	The list of chemicals in the table should be denoted as total or on a dissolved basis.	OSM Hydro Team	Yes	Revise
4.1.4.1	4-35-38	1-37 pages	The basis of the analysis should reflect if the concentrations are based on a total or dissolved basis.	OSM Hydro Team	Yes	Reference dissolved or total as applicable in this section
4.1.6.1.	4-61	1	This table shows that Alaska did not receive a regulatory grant in 2009. This is not correct.	OSM Hydro Team	Yes	revise

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			According to FBMS (Gov accounting software), Alaska received 224,254 for regulatory grant in FY2009			
4.1.3.1.1.2	4-12	27-28	Need a reference or source for this FPOP assessment	OSM Hydro Team	Yes	Please provide reference, even if its personal communication
4.1.3.1.1.2	4-14	1	What is meant that "material damage regulations may be expected in increase???" This makes no sense.	OSM Hydro Team	Yes	Please clarify
4.1.3.1.1.2	4-14	15	Table 4.1.3-2... The results of this table are very surprising. You mean that 196 pages of proposed regulations result in ~ 15 miles of streams not being impacted per year under alternative 5 (alternative 1 = 110 miles/yr, alternative 5 = 94 miles). I have a hard time believing this. This table is the culmination of the impact of the Stream Protection Rule. The results in this table need to be fully explained. Again, it just doesn't make sense that these regs are only going to reduce stream impacts from 71 miles (alternative 1 in Appalachia) to 56 miles (alternative 5 in Appalachia). What is the source of all of the other stream impacts for alternative 5? Again, the discussion of this Table needs to be significantly augmented. For examples, what are some "typical" mining scenarios that would still result in a stream impact? What mining scenarios would be prohibited that caused the stream impacts to decrease from 71 miles to 56 miles in Appalachia? This table is the crux of the impact assessment and needs to be fully explained. If your analysis is well grounded, then there is not much benefit, in terms of miles of streams protected, in the proposed rule...	OSM Hydro Team	Yes	Please augment the discussion like the comment suggests as this is a key table, which must be very clear to everyone.
4.1.3.1.1.3	4-15	11	Underground mining involves blasting???? Do you mean for shaft construction? Certainly not blasting underground, expect in UG Anthracite mining, which these rules don't apply.	OSM Hydro Team	Yes	Either clarify what you mean my blasting or delete the blasting reference
	4-22		General Conclusions: #3... Acid *mine* drainage (not acid mining drainage)	OSM Hydro Team	Yes	Revise
4.1.4.1	4-35	22	The document states that Aluminum is less soluble at low pH. This is not correct. This should read that Aluminum is ***more*** soluble at low pH.	OSM Hydro Team	Yes	Revise

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4.1.3.1.1.2	4-14	15	The numbers in Table 4.1.3-2 just don't make sense for Alternative 2. I still have problem with trying to understand how these numbers were derived. I've read the methodology section, but there really needs to be some discussion on the "types" of analyses that were preformed when deriving these numbers. Maybe some "examples" need to be provided in the mythology of how you analyzed the effect of the alternatives in the regions. As of right now, I have no understanding of how to critique these numbers because Chapter 4 really doesn't provide insight, other than experts were surveyed, as to the types of analysis that were performed. With that said, currently Pa producing ~ 22% of coal emanating from underground mines in Appalachian (total coal production in 2008 for UG mines in App. was *232510000 and Pa UG production in 2008 was 53,260,861). If the effect of Alternative 2 was to basically eliminate 95% of surface mining in Appal. and increase UG mining in Appal., then the 32 miles of Stream impacts that would continue must come from underground mine surface disturbances, prep plants, and from refuse disposal. Pa produces 22% of Appal.'s UG coal and 95% of their refuse piles do not fill stream valleys and none of their UG mine face up areas are allowed to produce valley fills. Most all recent refuse piles (except 3 large longwall refuse piles) are top of hill piles or side of hill refuse piles....and NOT valley fill refuse piles... just not allowed in Pa except for slurry pond piles, like the 3 longwall refuse permits. Therefore, I hope you know these facts and have incorporated these into your UG/refuse analysis of stream mile impacts under Alternative 2. If you haven't, then you need to consider these facts and revise the numbers downward to reflect that fact the Pa produces ~ 22% of Appal. UG coal and no surface facility fills streams and only 3 refuse piles do so.... Which refuse piles can be permitted as either a surface mine or*	OSM Hydro Team	Yes	Please provide additional insight to mythology.

Section	Page #s	Line #s	Comment	Author	Incorporate (Yes/No)	Proposed Disposition
			underground mine under SMCRA regs.			
4.1.1	4-5	11-12	This section needs to explain why impacts are expected (even slight impacts) for Alternative 1 when this is a "no action alternative."	OSM Hydro Team	No	Impacts are in reference to implementing the 2008 SBR..there is another comment in the document that will force clarity on this issue
4.1.1	4-5	13	EIA or EIS?	OSM Hydro Team	Yes	Revise, if needed
Table 4.1.1-1	4-5		A zero value should be used for the Northwest underground production total.	OSM Hydro Team	Yes	Revise for UG production
4.1.1	4-5	18	EIA or EIS?	OSM Hydro Team	Yes	Revise, if needed
Table 4.1.1-2	4-6		It is unclear as to what these values represent (increase, decrease, no change) without knowing current acreage.	OSM Hydro Team	Yes	Are current affected acres presented in Chapter 3? If not, then need to be included in Chapter 3 or here in chapter 4.
4.1.3.1.1.1	4-11	7	What is the basis for stating that water quality will "...even degrade"?	OSM Hydro Team	No	Duplicate, previously accepted comment addresses this comment
4.1.3.1.1.2	4-11	12 - 15	A brief summary of the features of the various elements would help clarify meaning rather than just listing them by title.	OSM Hydro Team	No	Already provided description elsewhere in document
4.1.3.1.1.2	4-11	16	The report should reference the section containing the BTU information.	OSM Hydro Team		
4.1.3.1.1.2	4-11	22	The 8% reported here does not appear to correlate with the values in Table 4.1.1-1.	OSM Hydro Team	Yes	The word "each" in the sentence needs to be deleted because the table shows each is ~ 4% of surface mining production
4.1.3.1.1.2	4-11	27-28	Overburden and coal characteristics are a huge influence on the degree of impact.	OSM Hydro Team	Yes	Include overburden and coal characteristics in to the sentence
4.1.3.1.1.2	4-12	4-16	This paragraph appears to contain contradictory information. In the opening sentence, it states hydrologic impacts are expected to decrease in several regions, and towards the end of the paragraph, it is stated impacts are expected to remain the same. If this is an expected overall change, it should be worded as so.	OSM Hydro Team	No	Correctly worded .....

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4.1.3.1.1.2	4-14	2	The statement of an expected increase in stream impact does not appear to correlate with other info presented in this section.	OSM Hydro Team	No	Duplicate comment which is address in other comments that were accepted
4.1.3.1.1.2	4-14	10-12	Since previously it is stated that 0.18 miles of streams are affected per MMton of coal surface mined in the Appalachian region, is this section assuming a complete halting of surface mining in the Appalachian region?	OSM Hydro Team	No	Correct as written
4.1.3.1.1.2	4-14	13	What is meant by "stream loss"?	OSM Hydro Team	Yes	The sentence refers to loss and the table refers to stream impacts... Please describe what the table describes.... Mining in or through streams??? That have been reclaimed... does it include Fills????
Table 4.1.3-2	4-14		Define what is meant by "other" stream types or refer to section containing this info. To put these values in perspective, the current estimated stream impacts should be included. (response, they are included in alternative 1) Explain how the values were determined for the various stream types or refer to section containing this info. Explain how a "-" value was listed for Northwest, yet the total is shown as 0.16.	OSM Hydro Team	Yes	Please define what is meant by "Other" streams and what is meant by the "-" for NW... Was data not available?
4.1.3.1.1.3	4-15	11-12	Blasting is more an issue with surface mining. Other than subsidence and development of the slope/shaft, underground mining can also affect groundwater through seepage into the mine void.	OSM Hydro Team	No	Duplicate, already addressed by other comment that was accepted
4.1.3.2.1.2	4-24	25-32	Provide examples of sources for indirect stream loss. The discussion presented is of valley fills which has a direct affect on streams.	OSM Hydro Team	Yes	Describe what is meant by indirect stream loss

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4.1.3.2.1.2	4-24	33-35	What about sediment transport?	OSM Hydro Team	Yes	Consider adding the words "sediment transport" to sentence
4.1.3.2.1.2	4-25	6	Change "accumulation" to "accumulate".	OSM Hydro Team	Yes	Revise
4.1.3.2.1.2	4-25	15	Change "though" to "through".	OSM Hydro Team	Yes	Revise
4.1.3.2.2.1	4-25	37	I would substitute the term "contaminated" with "mining-related" or something similar. Whether or not spoil placement will have an effect on headwater streams depends on where in, or along, the stream system the spoil is placed.	OSM Hydro Team	No	Duplicate ..comment already addressed by another accepted comment..
4.1.3.1.1.2	4-11	13	"The [insert] **affects** of Water Elements..."	Marcelo	Yes	Review comment and apply if applicable.
4.1.3.1.1.2	4-11	17	May need to clarify that it is 15 acres of surface disturbance and not 15 acres of stream channel.	Marcelo	Yes	Review comment and apply if applicable.
4.1.3.1.1.2	4-11	30	. This section also does not appear to follow the Chapter 4 format where the Water and land Elements drive the discussion. For example this section would likely focus on discussions of Material Damage and Corrective Action Threshold.	Marcelo	Yes	Review Element sections for all resources. Correct d
4.1.3.1.1.2	4-12	14-16	Hydrologic Impacts remain the same. This sentence is conflicted with the predictions described in the Topography section. In that section it discusses reduced fills over time due to the implementation of the fill minimization plans. Reduced fills would suggest reduced hydrologic impacts over time as the minimization requirements are implemented. The next paragraph also discusses these reduced impacts Consistency of document is important.	Marcelo	Yes	Review comment and apply if applicable.

Section	Page #s	Line #s	Comment	Author	Incorporate (Yes/No)	Proposed Disposition
4.1.3.1.1.2	4-12	37-40	This discussion should be discussed with respect to the Water Elements Material Damage and Threshold Criteria. It lacks context.	Marcelo	Yes	Review for document for consistency of format and discussion. Review all Resources and verify that discussions are consistent with the section title (ex. Physical Impacts, Chemical Impacts), are consistent with the Element title (Land Elements, Water Elements, Other) and verify all Elements are discussed relative to predicted impacts (ex. Stream Definition, Monitoring, Threshold Criteria,etc.)
4.1.3.1.1.2	4-13	21-42	Why will reduced production AR reduce peak flows and runoff volumes? Maybe not increase peaks and volumes.	Marcelo	Yes	Review comment and apply if applicable.
4.1.3.1.1.2	4-13	26	*"...are predicted to be proportional ~~will follow~~ to the shift..."*	Marcelo	Yes	Review comment and apply if applicable.
4.1.3.1.1.2	4-13	32	There needs to be a clear distinctions as to what streams you are talking about since the range of alternatives have impacts for different types of streams (ephemeral, intermittent and perennial). "...miles of **intermittent and perennial** streams..." Make the same correction where applicable in rest of document.	Marcelo	Yes	Review comment and apply if applicable.
4.1.3.2.1.1	4-23	25-34	This paragraph does not follow logically. First it propose the impacts are related to 'shifts' from AR to Rocky and IL and then proceeds to discuss impacts in AR only?	Marcelo	Yes	Review comment and apply if applicable.
4.1.3.2.1.1	4-24	21-24	This sentence needs to be clarified. What about all the ephemeral streams mined through in West?	Marcelo	Yes	Review comment and apply if applicable.
4.1.3.2.1.1	4-24	4-35	This section lacks any details about the current regulatory environment and how it does or does not account for fluvial processes. How do mines reclaim streams now? How will we evaluate if the proposed action is any better? What is the range of reclaimed fluvial conveyances (trapezoidal diversion, rip rap	Marcelo	Yes	Review comment and apply if applicable.

Section	Page #s	Line #s	Comment	Author	Incorporate (Yes/No)	Proposed Disposition
			down drains, Rosgen channels, etc.)?			
4.1.3.2.1.2	4-25	1-24	This section lacks any details about the current regulatory environment and how it does or does not account for stream morphology. How do mines reclaim morphology now? How will we evaluate if the proposed action is any better? What is the range of reclaimed fluvial conveyances (trapezoidal diversion, rip rap down drains, Rosgen channels, etc.)?	Marcelo	Yes	Review comment and apply if applicable.
4.1.3.2.1.2	4-25	26-28	Once again the This statement is very inadequate and appears to be a recurring substitute for substantive conclusions. This section is titled Erosion and Sediment Control, what happened to discussion about sediment control? If this is all that can be said about this topic do we really need it in the document? What is happening to erosion in the other regions?	Marcelo	Yes	Review comment and apply if applicable.
4.1.3.2.2.1	4-26	1-2	What happened to the shift? Why does this conclusion not assume since shift from AR to Rocky & IL, then less fills, thus improved surface water quality in AR?	Marcelo	Yes	Review comment and apply if applicable.
4.1.2.1	4-7	3-4	This statement suggest that topography (filling of valleys and reduced mined area relief) is not being impacted by the current practices and rule provisions. This is contrary to the purpose needs of this effort.	Marcelo	Yes	Review comment and apply if applicable.
4.1.2.2	4-7	20-21	In addition, a reduction in the size of valley fills would lead to preservation of the topography in the portion of the valley that would have formerly been filled by excess spoil ~~that would, under Alternative 1, be backfilled~~.	Marcelo	Yes	Review comment and apply if applicable.
4.1.2.2	4-8	20-27	Need to discuss why shallow soils are believed to be more stable.	Marcelo	Yes	Review comment and apply if applicable.
4.1.2.2	4-9	23-25	"Alternative 1 would not likely have any additional effects on stability **of excess spoil valley fills** in the steep slope areas of Central Appalachia because these policies are expected to continue." This statement conflicts with the Michaels & Superfesky findings.	Marcelo	Yes	Review comment and apply if applicable.

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form FINAL

Title of Document	Chapter 4 Alternative #2
Contact Information	
Name	Combined / Processed Comments
Telephone Number	
Email	

Section	Page #s	Line #s	Comment		Incorporate (Yes/No)	Proposed Disposition
4.2.1	4-75	12	"Alternative 2's complete prohibition on mining activities in, near, or through streams within the 100-foot stream buffer zone is expected to sterilize surface mineable coal resources throughout the majority of the nation's coal mining regions." It is impossible for me to assess the truth of this statement because I have not seen the text of Alternative 2.	CG-SOL	NO	The text of Alternative 2 is a concept, it does not include specific rule text. Under the concept of Alt 2, ALL mining activities are prohibited within 100 feet of streams.
4.2.1	4-75	11-13	"Alternative 2's complete prohibition on mining activities in, near, or through streams within the 100-foot stream buffer zone is expected to sterilize surface mineable coal resources throughout the majority of the nation's coal mining regions." It is impossible for me to assess the truth of this statement because I have not seen the text of Alternative 2. 4-75-12 term "sterilized" used for effect on mining?	CG-SOL	Yes	While "sterilize" is as term commonly used professionally in the assessment of nature resources reserves, "severely reduce" or "constricted" are terms that are generally better understood by the reading general public.

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			Sterilize = To render sterile. Sterile = lacking any power to function; not productive or effective. I would use terms such as "severely reduce" or "constrict".			
4.2.1	4-75	13-14	If Alternative 2 would basically eliminate "surface mineable coal resources through the majority of the nation's coal mining regions, then what mining scenarios are still causing the 43.45 miles of stream impacts shown in Table 4.1.3-2 on page 4-14. I find it hard to believe that underground mining accounts for 40 % of the current impacts to streams (43 miles/110 miles from Table 4.1.3-2). In other words, if Alternative 2 would basically outlaw surface mining in the east, why is it predicted that Appalachia would still have 43 miles of stream impacted per year? What are the source of these impacts	OSM	Yes	Additional explanation needs to be provided to reconcile the narrative and the Table in question.
4.2.1	4-75-76	18-19; 1-2	A statement could be made that highwall (and /or perhaps underground) mining might be an alternative(s) to surface mining methods in order to increase minable reserves.	OSM	Yes	More information about these other techniques need to be included.
4.2.1	4-76	1	term "could" should be changed to "would"	CG-SOL	Yes	The term "would" more accurately reflect the data in the table.
4.2.1	4-77	Table 4.2.1-1	If Alt. 2 is ban on mining in, near or though streams, then why are ephemeral streams not included? Don't ephemeral streams make up the majority of streams in some if not all regions?	MY	No	The EIS identifies that there are no existing reliable measurement of ephemeral stream lengths, therefore this information was not include
4.2.1	4-77	Table 4.2.1-1	Provide the source of the data included in this table.	OSM	Yes	Provide a source for information used in the table or explanation has how the numbers were derived.
4.2.1	4-77	Table 4.2.1.1	For the values shown in the first six columns of this table, suggest either rounding values showing 3 significant figures or rounding to nearest 1,000 (or greater).	UT	No	
4.2.1	4-77	Table	For the purpose of streams, would it be wise to add in	KJ	No	A determination was made not to include WA in the EIS.

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		4.2.1-1	the WA area, as it is similar the stream density in the east?			
4.2.1-1	4-77	Table 4.2.1.1	This table needs more explanation in the caption as to what the data include and represent.	EPA	Yes	A narrative description of the table would aid understanding.
4.2.1.1	4-78	3-10	What about impacts due to surface mining? What about the remaining "water elements"?	OSM	No	Surface mining impacts are adequately when consideration is given t combined "water element" discussion under alternative #2.
4.2.1.1	4-78	8 – 10	This section includes discussion indicating the area above an underground mine (shadow area) is typically not a part of the SMCRA permit area and surface impacts may be considered off permit material damage. In Indiana ,while the shadow area is not permitted as a surface disturbance (see discussion beneath Section 4.5.1.1), it is still within the permit area and any impacts that may occur to the surface must be mitigated. As a result, this narrative needs revised.	IN	Yes	This is a good comment and reflects the manner in which Indiana an other states regulate impacts within the "shadow area". As this rule i National rulemaking effort, the EIS needs to be written so as to prote the object resource regardless of whether the impact caused by the underground mine is within the permit area or "shadow area". The designation of "shadow area" should not be considered a loophole to the obligation to protect or mitigate impacts.
4.2.1.2	4-78	12	Need to be more specific as to which provisions are being referenced.	EPA	Yes	This conclusion is needs to be further enhanced and more detailed t support these statements.
4.2.1	4-78	12 & 14	"sterilize" used again?	CG-SOL	Yes	While "sterilize" is as term commonly used professionally in the assessment of nature resources reserves, "severely reduce" or "constricted" are terms that are generally better understood by the reading general public.
4.2.1.2	4-78	16, 26-28 and 29-36	w/ thick seams & thin overburden – I don't disagree with the statement that the premining topography couldn't be matched – however AOC means approximate, with the same controls in place to blend with the surrounding and approximating the premining topography. It says nothing about exact recreation of the premining topography. Depending on the mining plan and the allowances or requirements by/for the coal owner, leaving coal in place because the proposed postmine elevation drop has never been an issue (except w/ BLM which calls for maximization of coal removal or payment of royalties in lieu of coal). More importantly has been the resolution/mitigation of the water issues – affects to the coal aquifer or the direct the affects of mining on streams and seeps and ponds.	KJ	No	AOC under alternative 2 has been accurately represented. Impacts t water and resolution of those problems would change from current arrangements under alternative 2.

Section	Page #s	Line #s	Comment		Incorporate (Yes/No)	Proposed Disposition
4.2.1.2	4-78	20-21	Excess spoil would not be generated under Alternative 2 because decreases in surface mining would preclude spoil generation.	EPA	No	While the generation of excess spoil is likely to be significantly reduc alternative 2 does not preclude its generation. It only precludes its placement in or near streams.
4.2.1.2	4-78	24-26	Virginia's experience is that placing excess spoil on the solid portion of AML benches has not resulted in stability problems. The EIS should reconsider its statement referencing stability problems. The outer, fill portion of old benches should not be used.	VA	Yes	Placement of excess spoil on pre-SMCRA mine benches is not precluded in alternative 2, nor is the placement of this material required to be placed at slopes exceeding stability.
4.2.1.2	4-78	26-28	This section is good and clear.	EPA	Comment noted.	
4.2.1.2	4-78	26-28	"In areas with extremely steep slopes, such a requirement could prevent mining altogether, since those areas are so steep that restoration of the original elevation and slope could not be accomplished safely." SMCRA and Federal regs already prohibit mining in steep slopes where AOC cannot be achieved. 30 CFR 785.15; 816.107; 816.102; 773.15.	CG-SOL	No	This comment is not relevant to Alternate 2. No change in the EIS is needed.
4.2.1.2	4-78-79	37-2	This sentence makes it sound like the current practice is to simply dump coal refuse in streams rather than in a valley fill type structure that has been designed and constructed for long term stability.	KG	Yes	A more accurate description of coal refuse place per the comment is warranted.
4.2.1.2	4-78 & 4-79	37-38 1-2	"Underground mining production could also be affected by Alternative 2. The prohibition on placing fill material in streams would eliminate the possibility of placing coal refuse in any stream, which is currently the most relied upon and most economical way to dispose of coal refuse from underground mining in the Appalachian region." Is this a true statement? Are slurry ponds and refuse areas "in streams"?	CG-SOL	No	Construction of refuse fills and slurry impoundments is allowable under current SMCRA regulations.
4.2.1.2	4-79	2-12	Returning coal refuse to underground mine workings during reclamation is not compatible with current Appalachian mining technology, nor is it economically	VA	No	Placement of coal refuse into underground mines is practiced in Appalachia. Whether it is practical, feasible or economical is specific to site circumstances, but it does occur.

Section	Page #s	Line #s	Comment		Incorporate (Yes/No)	Proposed Disposition
			feasible or practical.			
4.2.1.2	4-79	8-10	Economic considerations of coal sterilization should be included in economic analysis discussions later in 4.1.6	EPA	Yes	Economic impacts of coal sterilization need to be further discussed ir
4.2.1.2	4-79	1-12	Additional information about the benefits of stream protection related to refuse storage that would not be allowed in or near streams should be included.	EPA	Yes	This discussion should not be limited to the economic cost. The environmental benefit of not place coal processing wastes in constru fills within streams needs more discussion.
4.2.1.3	4-79	14-20	Regardless of the potential coal production, the overriding intent of this section is the affect to water sources from coal mining. Underground mining is just as likely to affect water sources as is surface, so no matter where the mine is located or how the coal is mined there could be (potential) impacts to water sources that the ban on affecting water will shut down mining completely in any part of the country.	KJ	No	The EIS presentation regarding the displacement of surface by underground mining and environmental impacts of this change is ger an accurate representation.
4.2.1.3	4-79	22-29	The line numbers are overlapping the table in the far right column.	UT	Yes	Table needs to be corrected.
4.2.1.3	4-79 & 4-80	Tables 4.2.1-2 & 4.2.1-3	Tables in the Alternative 2 section should also include the change in tons mined and acres disturbed compared to alternative 1 – which are significant.	KJ	No	Current representations are adequate.
4.2.2	4-79	5-8	The geochemical analysis (acid-base accounting data and/or leaching tests) of the refuse material would have to be able to demonstrate that this material placed on the mine permit would not result in elevated concentrations of sulfate, TDS, and specific conductance, and other toxic trace elements.	OSM	Yes	The narrative should indicate that analysis of refuse materials, such a suggested in the could be provided to determine the material suitabil of the refuse materials placement under a variety of potential conditions.
4.2.2.1	4-80	4-5	"Alternative 2's complete prohibition on mining activities or the placement of fill material in or within 100 feet of *any* stream, including ephemeral streams, "At 4-75-11-12 the text reads "Alternative 2's complete prohibition on mining activities in, near, or through streams within the 100-foot stream buffer zone" Are these two statements the same? Does the term "stream(s)" include ephemeral streams?	CG-SOL	No	EIS is correct as written. Alternate 5 includes full protection for ephemeral streams.

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4.2.2.1	4-80	4-6	Need citations and supporting data that demonstrate the 95% reduction in surface mine production. In addition, this consideration should not be the first statement under this section, as the environmental benefits of topographic and geomorphic protection will greatly improve.	EPA	Yes	This is an appropriate comment. The paragraph should describe ho alternative 2 influences geomorph. and topog. How this alternative n reduce mining activities should only be included later. If this statem is supported by the RIA, it should be cited.
4.2.2.1	4-80	4-8	Sounds right based on the alternative, but how did you come up with 95%? Is this just an educated guess? Was this calculated? Estimated? (It seems it's covered in 4.7—if so, I'd cross-reference it).	PM	Yes	Documentation for the reduction need to be referenced for the reade
4.2.2.1	4-81	1-2	This statement indicates that a definition for material damage would eliminate underground mining under Alternatives 2 through 5. Subsidence does not necessarily equal material damage. It depends on the response to streams and other water resources.	OSM	Yes	This needs to be changed. The SPR does NOT prohibit changes to topography resulting from underground mining, nor does it equate subsidence within 100 feet of a stream as material damage to the hydrologic balance. REVISE this language.
4.2.2.1	4-81	1-2	Based on the proposed definition of material damage, subsidence of an area within 100 ft of a stream MAY constitute material damage if the subsidence results in a quantifiable adverse impact, "*...on the quality or quantity of surface water or groundwater, or on the biological condition of a perennial or intermittent stream, that would preclude any designated use under sections 101(a) or 303(c) of the Clean Water Act or any existing or reasonably foreseeable use of surface water or groundwater outside the permit area.*"	OSM	No	This comment is more appropriate for the preferred alternative #5.
4.2.2.1	4-81	3-6	The environmental benefits are the most important idea of this section and should be included up front.		Yes	This is duplicative of other comments received.
4.2.2.1	4-81	3-6	The "natural state" of topographic characteristics in many areas has been impacted for over 80 years in Appalachia.	VA	Yes	Statement could be better qualified that areas previously impacted b pre-SMCRA mining commonly exist in these areas.
4.2.2.1	4-81	4-6	The majority of the topography in the Virginia coalfields has been impacted by pre-law mining, therefore environmental impacts from the pre-law mining would continue.	VA	Yes	Duplicates other comments
4.2.2.2	4-81	8-11	I don't see the logic. How would not being able to do something in most places make me do a better job of	PM	No	The statement is accurate as written.

Section	Page #s	Line #s	Comment		Incorporate (Yes/No)	Proposed Disposition
			it in what's left?			
4.2.2.2	4-81	14-16	The thin and thick overburden provisions are not AOC variances. They are referenced as such multiple times throughout the document. The provisions for thick and think overburden are found in the performance standards. There is no specific variance from AOC that must be approved in the permit.	KG	No	While this comment is accurate for existing regulations, alternative 2 would eliminate mining that could not restore original contour.
4.2.2.2	4-81	15-16	"and define AOC to require the restoration of the original topography, including slope, elevation, and aspect" I disagree with this statement. Unless there is a change to current regulation stating AOC must equal pre-mining elevation, slope, aspect, etc., I don't know how this comment can be true. Approximate means approximate, not exact.	KJ	No	Alternative 2 does propose to change current regulations.
4.2.2.2	4-81	20-23	It does not seem logical that configurations would be more approximate than the No Change Alternative.	DL	No	Alternative 2 would require topographic restoration much closer to original than existing regulations.
4.2.2.2.	4-81	27-35	It should be noted that landforming may increase surface disturbance (of originally undisturbed area) and with the re-establishment of stream densities may result in increased water-spoil interaction. Exposures of large areas, rather than certain strata to be buried and encapsulated in a fill may cause increases in TDS and conductivity.	KY	No	No change is needed.
4.2.2.2	4-81	29-35	While the inclusion of land forming techniques will result in more "natural looking" landscapes post mining that does not guarantee that those landscapes will blend with the surrounding terrain. The material properties of the backfill are totally different from the in-situ material surrounding the mine. Re-creation of pre-mining topography, slopes, etc may not be possible due to stability concerns using the disturbed materials.	KG	No	No change needed. Mining would not be approved in steep slope areas where reclaimed slopes might be unstable.
4.2.2.2	4-81	Footnote 2	New Mexico permits the shadow area, as well	NM	Yes	Add New Mexico to the footnote
4.2.2.2	4-81	Footnote 2	"OSM does not approve permitting the "shadow area" above underground mine workings." (Emphasis added.) Is	CG-SOL	Yes	Remove the last sentence of the footnote. OSM has approved state programs that include the "shadow area" within the boundary of the permit.

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			this a true statement? Kentucky, Colorado and Utah have programs approved by OSM.			
4.2.2.2	4-81	Footnote 2	We may not permit the shadow area, yet we hold a bond for it in the west!	KJ	Yes	Duplicative of other comments
4.2.2.2	4-81	Footnote 2	It should be corrected to: OSM **did** approve the permitting of shadow area above underground mine workings in Kentucky (May, 1982, Federal Register)	KY	Yes	Duplicative of other comments
4.2.2.2	4-82	1-8	This discussion is not logical since AOC requirements apply only to the mined out area, not excess spoil or coal mine waste disposal structures. Terms defined in 701.5 should be used wherever possible to avoid confusion. This section is very difficult to follow.	DL	No	Alternative 2 makes significant changes to existing regulations and definitions.
4.2.2.2	4-82	6	Should read "...eliminate the use of fine coal refuse impoundments..."	KG	Yes	The correct term is NOT "fine refuse coal", as written in the EIS, it is "fine coal refuse".
4.2.3.1.1	4-82	18-19	Virginia, as is the case generally for the east, doesn't experience significant water withdrawals for coal production. This would not be significant in the Appalachian basin.	VA	No	The EIS is sufficiently qualified to address this concern.
4.2.3.1.1.1	4-82	31	Should add, "...significantly alter **overlying and** underlying aquifers."	OSM	Yes	Add the suggested language.
4.2.3.1.1.1	4-82	34-35	Not sure what is trying to be said here since you can have an adverse water availability impact in areas where groundwater is not currently being used (i.e. reasonably foreseeable use).		No	Current explanation is sufficiently clear.
4.2.3.1.1.1	4-83	7-9	This description of thresholds should include the provision that the thresholds would consider all impacts including those from other land uses.	MC	No	The language accurately describes the during of monitoring as is intended.
4.2.3.1.1.1	4-83	8-9	I am not sure if, "...based on a comparison of baseline data and data collection during mining and restoration activities" is a correct statement???	OSM	No	The statement would be correct for alternative 2.
4.2.3.1.1.1	4-83	14-15	Previously a net decrease is described?	MC	No	As written the increase refers to an increase in u/g mining.
4.2.3.1.1.1	4-83	19	Explain how, "SDWA violations may increase".		No	Increase in violations is a legitimate presumption.
4.2.3.1.1.1	4-83	19-26	This paragraph is redundant and unnecessary.	CG-SOL	Yes	Not including the last sentence of this paragraph, it should be remov as it does duplicate the previous paragraph (lines 11 – 18)
4.2.3.1.1	4-83	19-26	For a balanced EIS, the document should adequately reference the positive impacts to water quality	VA	Yes	Narrative should recognize that remining has improved some localiz water quality.

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			accomplished through remining. Accounting for pre-law impacts to coalfield streams, many existing pollutant sources would remain and continue to degrade water quality.		No	Inclusion of a discussion of pollutants resulting from pre-SMCRA mining is not necessary.
4.2.3.1.1.2	4-83	35-38	It's assumed under Alternative 2 that surface mining nationally is reduced by 95%, which will cause a nationwide expansion of underground production. However, on page 4-81, lines 1-2, it indicates that underground mining causes subsidence, which would be prohibited with a material damage definition. Therefore, it appears that existing or expanded underground mining could not occur.	OSM	No	The EIS is being corrected to reflect that subsidence in and of itself does not equate to material damage. This change will render the comment moot.
4.2.3.1	4-83	38	"Nationwide coal production may decrease by approximately 60%." At 4-81-16, the text says 58%.	CG-SOL	Yes	The percentages need to be consistent.
4.2.3.1.1.2	4-84	15-16	"No underground mining may be expected in the Northern Rocky Mountains and Great Plains due to geologic constraints."? Previously page 4-79 lines 15-17 "It is projected that underground production in the Northern Rocky Mountains and Great Plains, the Appalachian Basin, the Illinois Basin, and the Colorado Plateau may increase by 25% to compensate for surface production losses, although this 25% increase will not make up for all caloric values lost due to the reduction predicted for surface mining."	MC	Yes	Make the appropriate correction to eliminate or further qualify this inconsistency.
4.2.3.1.1.2	4-84	22-24	I have no idea what this sentence is trying to say.	OSM	Yes	This sentence is unclear.
4.2.3.1.1.2	4-84	29 (entire paragraph)	The four sentences in this Stream Length Impacts are under-developed, confusing, and somewhat contradictory. For instance, it states that stream recovery will begin at locations furtherest down-gradient, yet streams downgradient of fills are last to recover. I think just a little word-smiting is needed in this paragraph.	OSM	Yes	This paragraph needs to be completely rewritten for clarity, as the accumulation of commentary indicates there is a universal misunderstanding of what this paragraph is attempting to communica
4.2.3.1.1.2	4-84	30-33	This sentence has no conclusion?	MC	Yes	Duplicative of other comments
4.2.3.1.1.2	4-84	30-33	This is an incomplete sentence.	OSM	Yes	Duplicative of other comments.

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			What is meant by "the affected Basin"?			
4.2.3.1.1.2	4-84	30-35	*Something's missing – the following lines don't make sense.* 30 With the essential elimination of surface mining and the requirement for material damage to 31 eliminate any impairments to the physical, chemical, or biological function of any streams, the 32 affected Basin, the Illinois Basin, and the Colorado Plateau regions, respectively, compared to 33 Alternative 1. Streams that have previously been affected by surface mining activities may 34 recover as the hydrologic balance and land uses become reestablished stream length may be 35 expected to be reduced by 86%, 54%, 60%, and 60% for the Northern Rocky Mountains and 36 Great Plains, the Appalachian to pre-mining land uses.	UT	Yes	Duplicative of other comments.
4.2.3.1.1.2	4-84	33-36	What is this sentence saying? This section should not be discussing hypothetical stream recovery. It should describe how the Elements (Mining through streams) affect future stream lengths impacts	MC	Yes	Duplicative of other comments
4.2.3.1.1.2	4-84	33-36	This sentence does not make sense.	OSM	Yes	Duplicative of other comments
4.2.3.1.1.2	4-84	34-6	This sentence needs clarification, as there are four percentages given, which do not correspond to the two regions listed.	EPA	Yes	Duplicative of other comments
4.2.3.1.1.3	4-85	5	Is the table reference supposed to be 4.2.3-1? This text and table should be moved to the stream section.	OSM	Yes Yes	The narrative labeling of this table does not match the label on the table. Impacts to stream length should not be listed in a section dedicated to groundwater hydrology. The table should be appropriately relocated.
4.2.3.1.1.3	4-85	5-21	How are groundwater impacts intimately related to length of stream impacted? Has this relationship (assumption) been described anywhere?	MC	Yes	Duplicative of other comments.
4.2.3.1.1.3	4-85	11-16	Need to elaborate on how a reduction in stream impacts and surface disturbance results in improved groundwater quality.	OSM	Yes	Provide additional explanation
4.2.3.1.1.3	4-85	17	"...the existing condition since mine spoils are more permeable than the in situ condition, thus..." Use of	UT	Yes	Reword. "In-situ" is unclear. Perhaps unmined overburden would be more appropriate.

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			"in-situ"?			
4.2.3.1.1.3	4-85, 4-86	All	This section is confusing and in some portions self-contradictory. Surface water impacts are discussed in terms of stream miles impacted, but the nexus between surface water impacts and groundwater impacts is not clearly made. In addition, in lines 19-21, it states that groundwater improvements would not be that significant because these impacts are localized to the mine area. However, if that is the case, then significant improvements or reduction of impacts should be expected, as these impacts will be proportional to the amount of mining, which will be reduced.	EPA	Yes	The discussion between when impacts and/or improvements are significant or insignificant is confusing and appear in some instances to be contradictory. Rewrite for clarity.
4.2.3.1.1.3	4-86	1-4	These lines contradict Section 4.2.3.1.1.1 and Section 4.2.3.1.2.2, which state that groundwater quality will decrease as the result in increases in underground mining. The Colorado Plateau was included in one of the regions in which this was supposed to be the case.	EPA	Yes	Duplicative of other comments
4.2.3.1.1.3	4-86	5-8	Expand on the assertion that impacts on the hydrologic balance and water quality are typically limited and short lived.	OSM	Yes	This statement requires supporting information.
4.2.3.1.1.3	4-86	9-11	The assertion that groundwater quality is too mineralized for most uses is a highly generalized statement. Provide the source material for this statement.	OSM	Yes	Support for these statements must be made.
4.2.3.1.1.3	4-86	14-19	This is not accurate. Saturated in 5 years?	MC	Yes	Provide documentation in support of this assertion.
4.2.3.1.1.3	4-86	28-30	The linkage between coal production and groundwater supplies and the subsequent benefits of Alternative 2 is unclear. It's stated that improvements in supplies are expected to be insignificant, but no data or reasons are given as to why.	EPA	Yes	Provide documentation in support of this statement.
4.2.3.1.2.1	4-86	All	Detailed discussion of chemical constituents should be included, and how these will be affected under Alternative 2	EPA	No	A detailed discussion for each chemical constituent is considered beyond what is necessary for the purposes of providing an analysis alternative 2.
4.2.3.1.2.1	4-86	33-36	This sentence states this section addresses impacts from the (5) water elements; however, it addresses only two.	OSM	Yes	Discussion should be expanded to address all 5 water elements.

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4.2.3.1.2.1	4-86	38	Where is table 4.2.3-5?	OSM	Yes	This table does not exist.
4.2.3.1.2.1	4-87	2-5	It is worth noting that, surface water quality that has been previously impacted would not likely follow this trend. The reduction of AML fees that would occur under this Alternative as well continued remining permits would result in existing pre-law impacts and AML features, such as eroding gob piles, to continue to degrade surface waters.	VA	Yes	While not unimportant, collateral issues related to improvement made resulting from remining of pre-law sites should be referenced. Loses in AML funds is addressed elsewhere in the EIS.
4.2.3.1.2.2	4-87	3-5	Notable improvements? The water may not experience impacts from mining but this does not necessarily mean water quality will be improved?	MC	Yes	Further degraded would be a more apparent term.
4.2.3.1.2.2	4-87	16	Table 4.2.3-2. The table indicates that there will be an increase in underground coal production in Alternatives 2, 3, 4, and 5, by 25%, 15%, 5%, and 15% for the Rocky Mtns and Great Plains. The feasibility of these increases are inconsistent with the statement on Page 4-84, Line 15, that "No underground underground mining may be expected in the Northern Rocky Mountains and Great Plains due to geologic constraints." This will affect tables and discussion thoughout.	OSM	Yes	Address this contradiction.
4.2.3-2	4-87	Table 4.2.3-2	Explain the -100 value for underground mining in the Gulf Coast when there is no current underground mining in this region. How were the values listed as totals derived?		Yes	The Northwest has 0, the Gulf Coast has -100. These areas would appear to be the same as no u/g mines exists in these two regions. There cannot be a 100% reduction of something that does not exist.
4.2.3-2	4-87	Table 4.2.3.2 Alt 2 Surface	There is a major assumption in that a 95% decrease in surface mining would occur across all regions. This indicates that little regional analysis went into this prediction. It is unlikely that given the differences in geography, aridity, hydrology, and stream density across the regions, that this figure would be constant.	EPA	Yes	An explanation as to the uniform reduction in surface mining needs to be provided.
4.2.1.1.2.2	4-87	Table 4.2.3-2	What are the numbers in this table? They do not correspond to the tons shown in 2008 production in Table 4.1.1-1 or projected production in Table 4.2.1-2. Explain where they came from & how they related to the yearly disturbance. Also, this table is referenced on page 4-79, but it is	KJ	Yes	Duplicative of other comments. Expand the explanation as to the origin of this table.

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			physically located 8 pages later. Move the table closer to the actual place where reference to it is stated.			
4.2.3.1.2.2	4-87 to -88	Table 4.2.3-2	This table needs a description of the units, which are assumed to be percent.	UT	Yes	Duplicative of other comments.
4.2.3.1.2.2	4-88	Table 4.2.3-3	No sound reasoning can be found for the near total elimination of mining in the Gulf Coast and Other Western Interior regions for Alternative 3 and Alternative 5.	DB	Yes	Additional explanation should be provided explaining the reductions i production.
4.2.3.2.1.1	4-88	7	Reiterate: In Virginia, properly minimized and placed fills rarely have a continuous discharge.	VA	No	As written, the EIS does not state that outflows from fills might be intermittent or non-continuous.
4.2.3.2.1.1	4-88	9-10	Reword : over time minerals and ions are leached and flushed through the valley fill by ground water flow.	OSM	Yes	Change provides a more accurate description of this process.
4.2.3.2.2.1	4-89	24	Typo. Reference should be to Table 4.2.3-2.	OSM	Yes	Correct the table reference.
4.2.3.3.1.1	4-90	6-11	What about the other components under "other elements"?	OSM	No	The "other elements" are adequately described.
4.2.3.3.2.1	4-90	31	Typo. Reference should be to Table 4.2.3-2.	OSM	Yes	Correct the table reference.
4.2.3.2.2.2	4-90	1-2	States that Gulf Coast underground coal production would remain unchanged, but this in direct contradiction to the Table in 4.2.3-2, which states that the Gulf Coast would experience a 100% decrease in underground production under Alternative 2	EPA	Yes	Duplicative of other comments.
4.2.3.3.1.2	4-90	General	Would like to see a discussion of Topsoil management included in this section.		Yes	Topsoil management is mentioned at 4-90 line 27, but is not discuss Topsoil management along with the "other elements" mention need t be discussed.
4.2.3.3.1.2	4-90	14-20	Planting trees on lands that supported grasses in the pre-mining state will result in a net loss of both surface and ground water because trees consume more water than grasses. Lines 18-20 correctly point out that some trees consume more water than others, e.g., conifers vs. deciduous trees. For example, see: Gifford, G.F., Humphries, W., Jaynes, R.A., January 1983, A Preliminary Quantification of the Impacts of Aspen Succession on Water Yield within the Colorado River Basin (A Process Aggravating the Salt Pollution Problem), Hydraulics and Hydrology Series UWRL/H-83/01, Utah Water Research Laboratory, Utah State	UT	No	The current discussion is adequate and accurately reflects reforestat under alternative 2.

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			University, Logan Utah			
4.2.4	All	All	Again, this section does not discuss impacts to listed species	CW	Yes	A discussion of listed species needs be included.
4.2.4.1	4-91	27	Good acknowledgment of intermittent and ephemeral streams as critical habitat features.	EPA	Comment noted.	
4.2.4.1	4-91, 4-92, 4-93	All	In general, this is a very strong section, one of the best in the document. The last summary paragraph seems to contradict the entire section, however, as it focuses on adverse impacts rather than all of the benefits to wildlife and habitat that are discussed throughout the section. Suggest making a more accurate summary describing these benefits.	EPA	Yes	A rewrite of the summary to reflect this comment is warranted.
4.2.4.1	4-92	1-3	An increase in u/g mining could also cause an increase in created wetlands resulting for subsidence caused drainage problems.	PE	Yes	EIS needs to include a discussion that in certain areas of the nation v flatter topographies, subsidence is more likely to create problems with a lack of drainage (creating potential wetlands) rather than enhancing drainage and elimination of wetlands.
4.2.4.1	4-92	6-12	Creation of wetlands on reclaimed areas resulting from strict adherence to AOC requirement should be no great under alternative 2 compared to any of the other alternatives and perhaps less so as topography may end up more steeply sloped under alternative 2. Increases in wetlands more likely would result for enhanced wildlife requirements under Alt. #2, not because of AOC.	PE	Yes	This EIS explanation needs to be more substantially justified based c comment.
4.2.4.1	4-92	13-16	Changes in off-site hydrologic balance are NOT allowed under ANY of the alternative. This language should be removed or further qualified, ie, more protection resulting from defining material damage and establishment of damage thresholds..	PE	Yes	Additional explanation needs to be provided. Added protection to th hydrologic balance outside the permit boundary made be provided b the improved definition of "material damage to the hydrologic balanc however, none of the alternatives, including alternative 1 (no action) allow for damage to hydrologic balance off permit.
4.2.4.1	4-92	26-28	Where the increase in u/g mining relative to surface mining results in a decrease in AMD impacts may not occur. There is a potential for even greater AMD impacts as more course refuse is exposed to potential surface oxidation.	PE	Yes	Some additional explanation needs to be provided per this comment.
4.2.4.1	4-92	26-29	There is a big difference between mine drainage and acid mine drainage. As current regulations exist to highly protect streams from the impacts of AMD, it's highly unlikely that AMD would be the primary adverse impact to streams under this alternative. Clearly, non-	NG	Yes	Under this alternative AMD problems as expressed in the EIS

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			acidic mine drainage containing dissolved metals and other components has a negative effect on aquatic life but the enhanced definition of "material damage" and permit-specific corrective action thresholds are designed to minimize these effects. Add in-stream gradient issues and dewatering to the list of underground mining impacts to streams.			
4.2.4.1	4-93	19	Under Alternative 2, even underground mining would be severely limited in the Appalachian Basin.	VA	No	The EIS acceptable as written.
4.2.4.1	4-93	Table 4.2.4-1	This table shows the clear/grub acres disturbed for the alternative 1 (no change from current practice) & alternative 2 (no disturbance of streams) – yet these numbers don't reflect the disturbances shown in Tables 4.1.1-2 (alter 1) & 4.2.1-3 (alter 2) nor is there a discussion about the differences between what is to be represented in each table.	KJ	No	The figures between these three tables accurately reconcile with eac other.
4.2.4.2	4-94	10-11	The width in stream buffer zone are no wider under alternative 2 than alternative 1, they both are 100 feet. The difference between the two are that under alternative 1 the buffer zone is absolute and extended to cover ephemeral streams.	PE	Yes	Rewrite to accurately reflect that the widths of these zones are the same between Alternative 1 and 2.
4.2.4.2	4-94	11-15	This material should be added to Alt 5	NG	No	
4.2.4.2	4-94	16-20	Under Alternative 2, the restrictions on remining would preclude reconnecting fragmented terrestrial habitats.	VA	No	Remining is not precluded under alternative 2, thought it is less likely occur as would be most surface mining activities.
4.2.4.3	4-94	28	The requirement for native species is included in ARRI Guidance mentioned on Line 35. (see previous comment on native species in Alternative 1)	VA	Yes and No	ARRI guidelines are basis on native species. ARRI guidelines however are not the only revegetation methods that might be undertaken, though they are highly recommended. However, the EI needs to be rewritten in a manner for this section to assure the explanations are more clear and accurately reflect the alternatives.
4.2.4.3	4-94	28, 31	There is a direct contradiction between these two lines: "There is no requirement that native species is used...." versus "...must be replaced with mature native trees." Chapter 2 indicates that this is a requirement of Alternative 3, but not necessarily Alternative 2. Clarification is needed.	EPA	No	While this comment is correct, the EIS is not inaccurate. Revegetati is broader subject than just the replanting of trees. Alternative 3 do require the use of native species. Alternative 2 does not, except for t
4.2.4.3	4-94	28	Native species **are** currently required in federal regulations unless otherwise approved by the RA.	UT	No	This is a discussion of Alternative 2, not the current requirements.
4.2.4.3	4-94	27	Reuse of topsoil may have a negative effect on reclamation in areas where topsoil substitute materials	PE	Yes	The EIS needs to reflect the benefit of topsoil substitute technology which has allow for the creation of "man-made" soil materials which

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			are superior to native topsoils.			certain instances can be superior to native topsoils.
4.2.4.3	4-94	27	Topsoil has to be salvaged and replaced on the reclaimed area unless you have an approved soil substitute. Under soils substitution the permittee must demonstrate that the substitute material is equal or more suitable than the existing topsoil. So the soil resource that is placed back on the mined surface is the best available soil material that is best able to support the intended post mining land use. So if the pre-mine soils are not the best available then it would not be reused on site. Replacing an inferior soil material would not be the most protective of the natural resources.	BJ	Yes	Duplicate comment.
4.2.4.3	94	31	"Mature" native trees? Presumably they will eventually be mature, but will bond be held until that time?	MR	No	The description is accurate as written. Alternative 2 requires the planting of "mature trees" and their survival through the bond liability period.
4.2.4.3	4-95	10	Replace the term "loopholes" with a more appropriate term such as "modify current performance standards".	VA	Yes	Any current short comings in the regulations should not be termed as "loopholes". Please utilize a more appropriate term.
4.2.5	95	21	Table 4.2.5-1 needs note that column 4 "Percent Change from Baseline (No Action Alternative) is calculated from the Affected Streams and not the Affected Area	DH	Yes	Factors used to calculate the percent change needs to be identified pursuant to the comment.
4.2.5	4-95	23	Under alternative 2 would there not be a potential reduction of impacts on visual resource because less mining would likely occur while documentation requirements would increase?	FK	Yes	Please address this comment. Less surface mining under alternative would significantly lessen visual resource impacts compared to alternative 1.
4.2.5	4-95	23-24	Disagree that there would be no changes under Alternative 2 that would directly affect visual resources. Many viewsheds would experience minimal to no surface disturbance, especially in Appalachia as well as the Northern Rockies and Illinois Basin, as a 95% decrease in surface mining is expected. Original topography and forest conditions would remain in-tact, preserving view-sheds.	EPA	Yes	Duplicative of other comments
4.2.5.1	4-96	2-11	No mention of recreational opportunities such as fishing, boating, and hunting, all of which would benefit from enhanced stream protection.	EPA	Yes	The positive recreational benefits resulting from better protection of streams needs to be discussed.

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4.2.5.1	4-96	4	Should "location" of mining be added to reduction of acreage providing for a reduction of visual impacts?	FK	Yes	Duplicative of other comments.
4.2.5	4-96	13-34	Add: Under Alternative 2 surface mining would be essentially eliminated (95%) reduction. The Land Elements under Alternative 2 would eliminate all AOC variances , including mountaintop removal mining, and thus also eliminate the majority of effects to archaeological sites and historic structures and landscapes.	EE	Yes – in part	A lessening of impacts and the need for mitigation as may be require to archaeological sites and historic structures and landscapes under alternative 2 as a positive aspect should be included.
4.2.5.1	4-96	22-34	Discussion of viewshed protection and visual resource benefits should be included here.	EPA	Yes	Duplicative of other comments
4.2.5.2	4-96		This section is written better than the other sections, so far.	CS-SOL	Comment noted.	
4.2.5.2	4-96	22-25	It should be noted that the reforestation requirement may be in conflict with the wishes of a private landowner. It should also be realized that the landowner who begrudgingly accepts a required PMLU may clear trees after bond release.	KY	Yes	Conflicts with landowner desires and post bond release activities a t least needs to be acknowledged.
4.2.5.2	4-96	26-27	The expansion of documentation requirements would provide additional documentation and review for the assessment of visual impacts on historic structures and landscapes in the Appalachian , Gulf Coast, and Illinois Regions, where visual impact assessment historically has not been well documented. (We have been asked to comment regionally, not on our respective states, but we do want to bring your attention to the fact that the RA in Virginia does give careful consideration to visual impacts on historic structures and districts.)	EE	Comment noted	No change required.
4.2.5.2	4-96	26-34	The sentence indicates that increased documentation would be required while line 33 states "existing practices and documentation...would continue in all regions. Please clarify	FK	Yes	The current narrative needs to be rewritten pursuit to this comment a does appear to be contradictory.
4.2.5.2	4-96	30	The text states " In the Colorado Plateau and Northern Rocky Mountains and Great Plains Region, where most of the land within the coal fields is managed by the BLM." This statement is inaccurate. While the BLM is one land manager, large extents of	BP	Yes	The EIS needs to provide better explanation with regard to federal agencies charge with management of the land surface and management of federal minerals. Additional explanation needs to b provided.

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			land are managed by the US Forest Service, the states and private land owners. Revise or provide a reference for this statement.			
4.2.5.3	4-97	3	Unclear what is meant by postbonding (which is also spelled "post-bonding" at other times). This term could mean after a bond is set and before release or could mean after release. If the term is to be used, its meaning should be established at its first use. "bonding and post bonding timeframes"	CS-SOL	No	In context of the discussion, post-bonding or postbonding means after final bond has been released.
4.2.5.3	4-97	3	"bonding requirements to ensure compliance" I do not know of any change in bonding guarantees for revegetation under Alternative 2 that would justify including bonding as a reason that the visual impacts would be lessened.	CS-SOL	No	It is the success of the revegetation that is assured by the bonding, which as a byproduct improves visual impacts. Bonds are not held t assure visual performance. This is a indirect benefit of the revegetation.
4.2.6	General	All	A more complete and thorough economic analysis is needed if projections of employment and tax revenue are going to be included. These projections cannot be made in the absence of additional data and factors such as market price of coal, U.S. energy production, and substitute fuels, production of renewables, and policies and incentives that would result from decreased coal production. Unemployment statistics are speculative without these data. In addition, unemployment figures are not calculated on a regional basis, but on a state-by-state basis, where urban centers account for the vast majority of employment. Employment impacts would therefore most likely be localized to communities near mine sites, and regional predictions over-generalize such projections.	EPA	Yes	The impact of market price of coal needs to be considered, whether such is addressed more fully in the RIA or EIS. Clearly a sharp lon term increase in the price of coal could influence the impact projecte impact of any one of the alternatives. Unemployment discussions need to be more focused.
4.2.6	4-97	6-16	Economic conditions of this alternative are severely understated. Local level impacts would be intense but also a larger scale impact would be expected as well. The alternative would have major impacts in the Appalachian basin. AML programs may largely cease and human health and safety problems go unabated. The EIS should also consider impacts over the next generation.	VA	Yes	Duplicative of other comments. The economic impacts need to be enhanced.
4.2.6	4-97	15-16	Add; Indirect effects of the loss of employment positions may include abandonment of historic communities as residents depart for jobs in other	EE	No	As this would be a secondary impact it would be beyond the requirements of the EIS

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			areas, leading to neglect and abandonment of historic structures and districts.			
4.2.6.1	4-97-104		With the estimate that coal production would be reduced by 58% and the majority of electricity is produced by coal-burning plants, why is the obvious impacts to electricity availability and price ignored by this analysis? At this time, there does not appear to be a viable alternative.	DB	No	This decision is beyond the immediate requirements of the EIS
4.2.6.1.1.1	4-97	25-28	By sterilizing the surface reserves, the long term (>10 year) employment reductions could be even more pronounced and are worth discussing. As noted previously, under Alternative 2, even underground mining would be severely limited in the Appalachian Basin.	VA	No	The reduction in u/g mining in Appalachian is not projected.
4.2.6.1.1.1	4-98	Table 4.2.6-1 General	It would be good to see all the employment data compared across all alternatives in one table so as to compare percentage changes from Alternative 1, which serves as a baseline.	EPA	Yes	A single comparative table for this purpose would be useful.
4.2.6.1.1.2	4-98	5-19	Data and citations are needed to explain how the employment multipliers are derived and what they are based on.	EPA	Yes	Support for these multiplies needs to be provided in the RIA and crossed reference to the EIS.
4.2.6.1.1.1	4-98-99	Table 4.2.6-1	*The text preceeding this table indicates there will be negative affects to surface mines in each region. Does the (100) in each row of the column indicate it will be 100 unemployment at surface mines? If that is true, based on what numbers or explanation is the resulting negative percent in column 3 calculated?* *Also, comparing the numbers in this table to table 4.1.6-1, many of the percentages don't work out to be what is shown in the table. What is the basis for the numbers in this table? Can the overall difference between surface and underground workers be added to this table?*	KJ	Yes	The basis for these tables and what they represent is unclear and needs to be worked to facilitate better understanding to the reader.
4.2.6.1.1.3	4-99	Table 4.2.6-2	Net Change in Unemployed column does not appear to be a percent	NM	Yes	Column 2 is in percentage
4.2.6.1.1.3	4-99	Table "4.2.6-2."	*Column 3 "Net change in unemployment (%)" shows actual numbers of people unemployed, not percents of change. This correct needs to be made to this employment table under all alternatives.*	KJ	Yes	Duplicates other comments

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4.2.6.1.1.3	4-99	Table 4.2.6-2	Throughout the EIS, impacts to employment through loss of direct service jobs, local retail jobs, as well as AML jobs do not seem to have been considered. Employment loss is sometimes noted as minor in the EIS. The old adage that "A recession is when my neighbor losses his job, a depression is when I lose my job" rings true throughout America. Jobs shifted to the Powder River Basin will not be filled by unemployed Appalachian Basin mine workers.	VA	No	Employment impact analysis will be more fully developed under the F The EIS recognizes the possibility of job loss and employment shifts.
4.2.6.1.1.3	4-99	Table 4.2.6-2	Is the column showing existing unemployment rate now, before any alternatives in affect? Is the "Net change unemployed" the estimated number (not percent) if alternative 2 goes into affect? And the last column – "change in unemployment rate" is in percent? Why not have all, after clarification, in actual number or all in percentages. Insufficiently labeled mixed number formats used in this table are confusing/inconsistent.		Yes	Duplicative of other comments. The referenced tables and narrative Need reconcile.
4.2.6.1.2.1	4-100	Table 4.2.6-3	This table contradicts all previous assumptions in that a 100% reduction in surface mining would occur. Some jobs would be preserved (as many as 2000) because it is stated that a 95% reduction would occur, not total elimination of all surface mining.	EPA	Yes	Duplicative of other comments. A more comprehensive and clear explanation of the employment issue needs to be rewritten
4.2.6.1.3	4-101	Table 4.3.6-4.	This table is too complex. Determining how each column of numbers was calculated is terribly complex, and I doubt the majority of general public would understand its presentation or how these numbers were derived. Please simplify. Does all the information NEED to be in this table or provided at all??	KJ	Yes	A comprehensive examination of these employment related tables (tl and others) needs to be carefully and critical reviewed to assure they are clearly presented and understandable to the general public.
4.2.6.1.4	4-102	Table 4.2.6-5	To adequately document impacts to AML programs, all alternatives should consider the actual AML disbursements to states/tribes over the remaining life of AML fee collection.	VA	No	How AML fees might be disbursed would be purely speculative. How fees would be collected, however, would not.
4.2.6.4.1	4-103	11-16	It is noted that coal royalties have been included in Chapter 4 of the EIS. This is a good inclusion. However, in our opinion, the loss of federal and state-owned coal as a government asset has not been given	UT	No	The level of detail is believed to be sufficient for the purposes of this

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			the attention it deserves as a public resource in this NEPA analysis.			
4.2.6.3	4-104, 4-105	All	More discussion about the environmental and health benefits from decreased water pollution, noise, and air pollution to low income communities near mine sites should be included.	EPA	Yes	Additional discussion regarding health benefit should be provided.
4.2.6.3	4-105	19	Why spell out environmental assessment but not EIS?	DP	No	
4.2.6.4.1	4-105	30-40	Increases in electricity rates should be considered and discussed in this section. Wastewater treatment plants will not be affected one way or the other regardless of the alternative chosen since mine sites typically have their own private wastewater treatment plants, if needed.	VA	No No	Consideration of electric rates is considered beyond the scope of the EIS. The reference in the EIS relates more to the need for public utilities t treat waters that may have been adversely impacted by mining rathe than impacts to water treatment plants owned by mine operators for their own water usage.
4.2.6.4.1	4-105	33-40 13-15	This doesn't mention that facilities would not have customers to pay the overhead expenses for keeping the plants running – even if usage was decreased w/ mine closures, etc. The statement that local effects "can not be determined until a site specific site is issued" is not exactly true. Given that the extent of all the US coal fields are known, it is possible to do an cursory analysis on the existing population and infrastructure to determine whether or not mining in area COULD supplement what currently exists or be developed to support mining.	KJ	No	The current level of discussion is considered appropriate for the purposes of the EIS.
4.2.6.4.1	4-106	12-13	Utah has recently permitted a surface coal mine	NM	Yes	The EIS needs to be revised to reflect the new surface mines permitt Utah.
4.2.6.4.1	4-106	12-14	The impact of these rules on Utah's coal mining industry and associated socioeconomics is **incorrect** as presently stated in these sentences. A surface coal mine with potential for several decades of mining was permitted in Kane County in 2010 and construction is well underway. This coal field was not, but should have, been included within the scope of the EIS according to scope determination methods. Other coal	UT	Yes	In respect to both of these comments, the EIS needs to consider the newly permitted Utah surface mines, particularly in light of the predic impact of this alternative on surface mines

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			reserves in Utah not included within the scope of this EIS are also expected to be mined by surface methods in the future. This analysis does not consider coal production areas in Utah that are expected to be active during the time period in which the rules will actually be implemented. Some of these reserves are likely federal coal reserves. It is suspected that Colorado may also have future reserves of surface mineable coal that would be affected as well.			
4.2.6.4.1	4-106	13-14	Utah undermined a stream and had to mitigate its replacement. So I don't think you can assume all underground mines will be allowed to mine under streams under altermative 2 because they have the potential to affect streams overlying the underground mine. This affects all regions.	KJ	Yes	This comment needs to be address.
4.2.6.4.2.1 Rail, alter 2 (but applies for all alternatives)	4-107-108	All	There is no discussion on the affects of coal removed from the overall amount of material shipped via rail in the US. Specifically, in the PRB, there is nothing outside of coal shipped in that area, Yet in NM, the main west-east line for UP runs along I-40, near the southern NM mines, so the amount of coal shipped via rail is relatively small compared to everything else. Provide some discussion on the removal of coal regionally and its resultant affect on the rail industry in each region, rather than simply focusing on transport of coal.	KJ	No	The current level of discussion of coal transportation is considered adequate for the purposes of the EIS
4.2.6.4.2.3	4-112	25	The exact figures are not at hand, but a considerable amount of the coal mined in Utah is shipped by truck! (see: 4.3.6.4.2.3 and 4.4.6.4.2.3)	UT	No	The EIS includes a discussion of coal shipped by truck in Utah. If an additional information is available to the commenter it would be considered for inclusion in the EIS.
4.2.7.1	4-115	Figure 4.2.7-1 & L-5-7	With alternative 2 and the increase in underground mining for eastern regions of the US, the number of fatalities with more underground mining, will also increase. The red line in this table should increase because the shear increase in the number of miners – most of whom will be new miners & more likely to get hurt.	KJ	Yes	The proximity of the explanations for tables 4.2.7-1 and 4.2.7-2 need be relocated closer to the tables themselves. As currently paginatec the explanation with the tables are easily confused.
4.2.7.1	4-116	Figure 4.2.7-2	As with the increase in the number of miners, the number of non-fatal injuries will also increase. Same	KJ	Yes	Same explanation as above.

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		Line 5-8	rationale as for figure 4.2.7-1. Increased public injuries w/ the increase in mining. Traffic accidents, etc in the areas near the mine and at the endpoints for truck/rail traffic.			
4.2.7.2	4-118	Figure 4.2.7-3	If this table shows the difference between alternative 1 & 2, explain why nearly all the alternative 1 number of traumas doubled, in addition to the number of illnesses from the alternate 2 underground mines.	KJ	Yes	The same proximity problems with the previously described tables al apply to tables 4.2.7-3 and 4.2.7-4. These explanations are otherwis considered adequate for the purposes of the EIS.
4.2.7.2	4-119	Figure 4.2.7-5	Because dust illnesses are incorporated into the results shown in table 4.2.7-3 (which has dust and trauma illness), explain what new, unique information this figure provides and why it is needed.	KJ	Yes	Same as above.

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	Section 4.3
Contact Information	
Name	
Telephone Number	
Email	

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4.3	4-119 to 4-159		The reference for impact analyses of the alternative is not consistent. At times the impacts are compared to Alt 1, at times Alt 2, and perhaps once or twice to Alt 4 and 5. This makes it difficult to compare alternatives. Compare impacts to each resource to all alternatives, or at least to Alt 1 and Alt 5(the preferred)?	Yes SOL Kleven	All impacts should be compared, at a minimum, to the impacts from Alternative 1 for consistency.
4.3	4-119	8	It would be helpful to restate Alternative 3 here.	Yes SOL KG	A brief recap of the Alternative should be included.
4.3.1	4-119	9	Should this section really be included within the environmental consequences section? Maybe it is more appropriate as an introduction to this section?	No SOL KG	Inclusion is appropriate.
4.3.1	4-120	1-2	Material damage to the hydrologic balance outside the permit area is not allowed under existing or future regulations. Currently, material damage impacts must be mitigated or repaired prior to bond release.	No PC OSM Hydro Team	This alternative is NOT intended to reflect the current regs or the proposed regulations, but rather an independent alternative approach.
4.3.1.1	4-120	1-2	I do not believe the definition of material damage in Alternative 3 is accurately described. Alternative three defines material damage as a function of designated uses. I don't think it say anything about allowing until bond release.	No OSM MC	This is an accurate reflection of Alternative 3.
4.3.1.1	4-120	10	"Some argue . . ." Is it really appropriate to include this sentence here? If yes, then you need more like what does science say, what is counter-argument etc.	Yes SOL KG	Lines 10-13 should be revised to include a detailed discussion of the challenges for stream restoration and the potential impacts on permits. The language as written is not supported, and must be edited to be more "fact-based"

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4.3.1.1	4-120	11	Make clear what condition you are referring to (i.e. do you mean form and function condition?).	Yes	See above.
4.3.1.1	4-120	10-11	Who is 'some', what is the restoration of form and function and why is so difficult /onerous?	Yes OSM MC	See above.
4.3.1.1	4-120	11-13	Seems speculative	Yes SOL Kleven	See above.
4.3.1.1	4-120	14	This sentence does not make sense to me.	No SOL KG	Sentence is clear as written.
4.3.1.1	4-120	16	Seems like you need more discussion on effects from the room-and-pillar method.	Yes SOL KG	Please expand discussion
4.3.1.1	4-120	14-15	Why are impacts to Rocky Mountain and Colorado Plateau not included? By the same logic mining in the west could be eliminated "...due to the large-scale surface area methods used, which may completely destroy the stream segment that is mined through"	Yes OSM MC	Agree. Expand discussion.
4.3.1.1	*4-120*	19-23	*"Longwall mining... is not predicted to to cause subisidence..." Has ARCC seen this, as I belive they would strongly disagree? PA has a TON of problems resulting from LW mining – subsidence and water among the most prevelent* *"Increase in underground mining production....due to the predicted reduction in surface mining methods". What about adding the need to mine additional areas with room & pillar w/o the option of 2nd mining (pulling pillars) to make up for the amount of coal where pillaring is NOT permitted. Extraction in R&P mining is about 50%, but with the added pillaring, it may gain up to 15-20% extraction. This is a factor to consider in Alternative 2 as well.* *Also,having to leave pillars would increase the rate of sterization of coal left in place. The ramifications to this haven't been addressed.*	Yes OSM KJ	Changes necessary to reflect regional differences and to indicate that LW mining "may not cause subsidence" as in many cases it may. This discussion needs significant revision.
4.3.1.1	4-120	19-21	The statement is made that longwall mining is not predicted to cause subsidence due to the depth of the mined seams. In West Virginia, highly significant "mountain breaks" occur from longwall operations that mined as much as 900 feet deep. Moreover, subsidence prediction is based upon the site-specific geology and thus a generalized statement such as	Yes TG OSM Hydro Team	See above

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			sentence 19-21 should be revised.		
4.3.1.1	4-120	24	This paragraph is lacking. It is hard for me to tell what the environmental consequences really are.	Yes SOL KG	Revise to be more direct.
4.3.1.1	4-120	27	Threshold and a required corrective action plan COULD have a positive impact to the environment???? Statements throughout the document are very unsure in tone.	Yes OSM MC	Revise to be more direct.
4.3.1.1	4-120	30	How would knowing of impacts necessarily avoid significant costs of remediation????	Yes OSM MC	Revise to clarify meaning.
4.3.1.2	4-120	32	This section needs more. It does not discuss environmental consequences. It discusses effects on mining. This seems more appropriate for the socioeconomics section.	Yes SOL KG	More language necessary to clearly define the impacts of changes on environmental consequences.
4.3.1.1	4-120	34	"possible" to "likely" if the model predicts this change.	Yes SOL Kleven	Change per comment
4.3.1.2	4-120	35	Is it just an increase in surface mining? In other places you say an increase in underground mining and yet others say an increase in both. It needs to be consistent and should address environmental consequences of both.	No SOL KG	Ensure that the usage is consistent with what the model shows. In some areas, the changes are independent and different.
4.3.1.2	4-120	37-38	Is the AOC variance the only reason surface mining in Rocky and Colorado Plateau would not be negatively affected? What about mining through streams. There is no discussion why mining through streams in the west is less problematic.	Yes OSM MC	Please ensure that discussions regarding the western regions are complete and accurate.
4.3.1.2	4-121	1-4	Is steep slope Area mining included in these predictions? Remember that MTR is a very specific type of permit.	Yes OSM MC	Ensure that the language accurately reflects all kinds of mining included in the analysis.
4.3.1.2	4-121	5-7	There is no analysis presented beyond it MAY decrease????? Was this not part of the 'shift ' analysis??? "Surface mining may also decrease in those regions where AOC restoration is an issue due to increased costs associated with the various surface configuration and fill requirements under Alternative 3."	Yes OSM MC	Please revise the section to more positively reflect the results of the analysis and ensure that if there are additional appropriate details that they are included.
4.3.1.2	4-121	9-11	Does this make sense?	Yes SOL KG	Consider revising to simplify language. Confusing as written.
4.3.1.3	4-121	12	This does not seem appropriate here.	No SOL KG	Disagree. Leave the section as is.
4.3.1.3	4-121		*Any prediction for the change in disturbance between alternative 1 & 3? No acreage table was included.*	Yes OSM KJ	Please add a table under the alternatives showing changes

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
					versus no action.
4.3.1.3	4-122	Table 4.3.1-1	Underground increased by 51.99M tons/y & surface decreased by 45.39 M tons/y – the net being +6.6 mt/y. Why hasn't a column been added to show the difference between these alternatives?	Yes OSM KJ	See above.
4.3.2.1	4-122	6	Why is section 4.2.1 referenced here? Section 4.2.1 discusses impacts associated with complete prohibition of mining through or around streams??? How is that relevant to predicted impacts of Alternative 3 that allow mining through or near streams with certain restrictions?	Yes OSM MC	Should have been 4.3.1 rather than 4.2.1.
4.3.2.1	4-122	6-12	Aren't you mixing alternatives when you reference 4.2.1? Also, if all these numbers were derived from the methodology described in 4.7, say so.	Yes OSM PM	See above.
4.3.1.2	4-122	12-15	The sentence : "As a result, acreages impacted by mining will increase and decrease according to the projected shifts in production in each region and topographic impacts based on the act of mining by surface or underground methods in those regions will be impacted accordingly." Says nothing about how the provisions of the water elements will affect topography. For example in previous sections affects are dismissed because they have no relevance to topography ex. Monitoring OR the water element is discussed how it will affect topography ex. Activities In or Near Streams. The document is not consistent and statements like the one above provide little. Also the prediction does not account for provisions of the Alternative it merely equates a topographic impact (plus or minus big or small) to the magnitude (plus or minus big or small) of production/affected acreage. Not very useful and does not speak to function/effectiveness of the Alternative provisions.	Yes OSM MC	Please revise in accord with the comment.
4.3.2.2	4-122	16-25	Evaluation of this alternative is not possible due to the inadequate explanation in Chapter 2. Alternatives 1 and 2 discussions contain an introduction and explanation of the	Yes OSM DL	Better explanation of Alternative 3 should be given in Chapter 2 and a brief description here.

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			action. Alternative 3 contains no such discussion.		
4.3.2.2	4-122	22-25	This section discuss changes associates with the No Action Alternative which would not result in changes. The discussion is not logical.	No	Because the no action alternative includes the 2008 SBZ rule which has not been implemented, some changes are expected to fully implement "no action" and those would be equivalent in Alternative 3.
4.3.2.2	4-123	1-40	Evaluation of this alternative is not possible due to the inadequate explanation in Chapter 2. Alternative 3 contains no such discussion.	No OSM DL	See above.
4.3.2.2	4-123	3	"... alternative 3 would apply to all mining operations.... Minimization requirements would be enforceable by the regulatory authority, whereas state policies are only guidance documents." I think this section needs to state that this proposal would require a change to current federal and state regulations making backfill maximization a requirement before the convenience of out-of-pit spoil placement is permitted to occur.	No OSM KJ	All the alternatives encompass regulatory changes.
4.3.2.2	4-123	8-14	The stability concerns associated with fill minimization are described by Michael & Superfesky, 2007. Controlled placement should Remember that this discussion should focus on the Land Elements that affect topography. Fill placement (construction technique) and prohibition of 'wing dumping' might be more applicable to Land Elements under Water Resources (how compacted fills versus gravity placement prevent elution of TDS, improve water quality).	No OSM MC	No changes needed.
4.3.2.2	4-123	10-12	Not necessarily true. A steep foundation can still be a factor in the case of an unstable non-durable-rock, lift fill with a machine-placed underdrain. That the spoil placement is no longer "uncontrolled" does not guarantee stability. For instance, if a placed underdrain is not *well* constructed (e.g. using weak rock materials or not properly sizing the drain), a steeper foundation could make the difference between stability and	Yes OSM PM	Change "would be inapplicable" to "would, in general, be less problematic"

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			failure.		
4.3.2.2	4-123 —4-125	15-6	The earlier comment about Ch. 3 (4th comment from the top) applies here as well.	No OSM PM	Not sure what this means.
4.3.2.2	4-123	36-40	Landforming is not required on fills!!! There are no proposed provisions that support this. There needs to be a clear distinction on this point if it is to be carried forward into the Preferred Alternative by reference to this section.	Yes in part OSM MC	Marcelo Calle will work with contractors to ensure the description of landforming is accurate and consistent with proposals.
4.3.2.2	4-124	1-39	Evaluation of this alternative is not possible due to the inadequate explanation in Chapter 2. Alternative 3 contains no such discussion.	No OSM DL	See above
4.3.2.2	4-124	35-39	So should we build valley fills further down stream using landforming and stream-restoration methods? Would Alternative 3 allow this? What about Alternative 4, and especially 5 (the recommended one)?	No OSM PM	Discussion needs to be looked at as a whole. Additionally MC and others will work with contractor to ensure this is accurate.
4.3.2.2	4-125	1-35	Evaluation of this alternative is not possible due to the inadequate explanation in Chapter 2. Alternative 3 contains no such discussion.	No OSM DL	See above
4.3.2.2	4-125	5-6	See comment on steep foundation	Yes OSM PM	See response above
4.3.2.2	4-125	7-9	Landforming is not required on fills, especially not coal refuse/slurry impoudments!!! There are no proposed provisions that support this. There needs to be a clear distinction on this point if it is to be carried forward into the Preferred Alternative by reference to this section.	Yes OSM MC	Marcelo Calle will work with contractors to ensure the description of landforming is accurate and consistent with proposals.
4.3.2.2	4-125	7-9	Is this accurate?	Yes	See above.
4.3.2.2	4-125	11-19	Revise the description of this requirement. Digital terrain models would also be required for the post mine topographic design and during reclamation. The digital terrain models would be used to evaluate AOC suitability, reclamation compliance and verify hydrologic, slope stability and erosion models. This could follow from the topographic measurements	Yes OSM MC	Reorder paragraphs. OSM SMEs will review to ensure accuracy.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			discussion.		
4.3.2.2	4-125	16-19	Seems speculative. Seems problematic to assume insufficient oversight or utilization of data for all time.	No	See footnoted source
4.3.2.2	4-125	19	3 at end of paragraph needs elevated for footnote	Yes OSM SS	Change per comment
4.3.2.2	4-125	20	I don't see the meaning of "Possibly more beneficial." What are you comparing the requirement to? The one in the previous paragraph? But isn't it the idea to compare documentation of topographic measurements to digital terrain models in order to assess AOC?	Yes OSM PM	Revise text to make more clear
4.3.2.2	4-125	25	"Alternative 3 would also define AOC to include **measurements of** slope, aspect, and elevation..."	Yes in part OSM MC	Revise to read "define AOC to include consideration of..."
4.3.2.2	4-125	31-35	Just discuss the one provision of AOC variances with respect to postmine landuse and additional requirements. If the alternative postmine land use is not supported than the requirements of AOC would apply. Thus some previously approved alternative PMLU would not be allowed and AOC would be required.	No OSM MC	Commenter misses the point of this discussion.
4.3.2.2	4-126	1-3	Evaluation of this alternative is not possible due to the inadequate explanation in Chapter 2. Alternative 3 contains no such discussion.	No OSM DL	See above
4.3.3	4-126 to 4-133		Organization is confusing. The number of subheadings may lose the reader. Check for consistency with other sections that may use this subheading format	No SOL Kleven	While the organization is complex, the number of subheadings is intended to allow the reader to find common themes among alternatives.
4.3.3.1.1.1	4-126	34-36	Off site impacts to the hydrologic balance are currently prohibited under No Action, although not defined. This statement is not accurate.	Yes OSM MC	This section needs to be revised. Contractors should work with OSM hydro team to fix lines 34-36 which does not accurately describe alternative 1.
4.3.3.1.1.1	4-127	3-14	This section is titled Physical Impacts. Chemical Impacts are described later.	Yes OSM MC	This discussion is misplaced under "physical impacts"

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4.3.3.1.1.1	4-127	21	Page 126 line 8 said 0.6%	Yes OSM MC	Ensure consistency
4.3.3.1.1.2	4-127	32-34	What minor surface mining changes? "...the total **disturbed acreage** reductions, with expected associated hydrologic **impact** reduction..."	Yes OSM MC	Percentage changes in Colorado Plateau are small. Changes in bold should be made
4.3.3.1.1.2	128	1-3	This sentence sounds conflicted. It suggests the impact from underground mining is reduced surface effects. Mine seeps may be better described as unanticipated underground mine discharges. Not sure what this sentence is trying to say.	Yes OSM MC	Sentence is unclear and should be revised. Suggest splitting main ideas into two or more sentences.
4.3.3.1.1.2	128	8-14	Do these stream length impacts consider provisions of the Alternative?	No OSM MC	These are reflective of the alternative
4.3.3.1.1.3	129	18-21	There is no groundwater anywhere in the Illinois Basin that is not degraded? Is this true? Where is this documented or referenced? Again, this section is titled Physical Impacts not Chemical Impacts.	Yes OSM MC	This section needs to be revised. Contractors should work with OSM hydro team to fix.
4.3.3.1.1.3	130	1-5	I am unclear as to how groundwater impacts are derived from length of stream impacted???? Where is this relationship described?	Yes OSM MC	The wording should be revised to reflect that impact changes would be proportional to ground water, rather than the cause and effect currently suggested by this wording.
4.3.3.1.1.3	130	14-25	This paragraph starts with the intention of describing potential chemical impacts to surface water quality under the provisions of Water Elements (1) –(5) and then goes on to <u>only</u> describe the impact as a function of coal production. More production less quality, less production better quality. The impact does not consider the provisions of the Alternative in any way. "Some level of improvement..." Language like this implies we do not know anything about the provisions and what affect	Yes OSM MC	The benefits are being fleshed out by the RIA team and others

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			they may have.		
4.3.3.3.1.1	4-132	35-37	This suggests that any environmental benefit of the alt results from no mining (presumably because increased regulatory requirements result in reduced mining), and not from any benefit of regulatory requirements. This is problem found elsewhere.	Yes SOL Kleven	The benefits are being fleshed out by the RIA team and others
4.3.3.3.1.2	4-133	8-26	Components of this section should be added to Alt 5	Yes NG	Changes should be added
4.3.4	All	All	Again, this section does not discuss impacts to listed species	Yes CW	Specific discussion of T&E species needs to be included in the analysis of each alternative.
4.3.4	4-134 to 4-137		Seems like an overly broad category and surprisingly brief discussion of potential impacts, especially when compared to the detailed analyses impact to employment and transportation. Suggest further categorizing of biological resources if impacts will differ.	Yes SOL Kleven	See above
4.3.4.1	4-135	10-11	I don't believe the definition for material damage varies between Alternatives 2-5. Therefore, there is not an "enhanced" definition for Alternative 3. Deleting the word "enhanced" should resolve the discrepancy.	Yes PC OSM Hydro Team	Delete "enhanced"
4.3.4.3	4-137	24-26	If these species do not utilize native species, or if they thrive on non-native species, then clarify. In other words, clarify why a decreased benefit.	No SOL Kleven	These issues are discussed in details in section 4.1
4.3.4.3	4-137	5	Topsoil has to be salvaged and replaced on the reclaimed area unless you have an approved soil substitute. Under soils substitution the permittee must demonstrate that the substitute material is equal or more suitable than the existing topsoil. So the soil resource that is placed back on the mined surface is the best available soil material that is best able to support the intended post mining land use. So if the pre-mine soils are not the best available then it would not be reused on site. Replacing an inferior soil material would not be the best practice under this alternative.	No	Not sure what change this comment contemplated.
4.3.5	4-138	7-8, 18-28	See comments above – section basically repeats alternative 2 discussion	No	Many sections will be similar under more than one alternative, as impacts may not be significantly different.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
4.3.5.1	4-138	17-18	Is this addressed and adequately explained in water quality section?	No SOL Kleven	Water quality section contains adequate details
4.3.5.2	4-139	18-19	The expansion of documentation requirements would provide additional documentation and review for the assessment of visual impacts on historic structures and landscapes in the Appalachian , Gulf Coast, and Illinois Regions, where visual impact assessment historically has not been well documented.	No EE VA	Observation that requires no changes to the document
4.3.5.1	4-139	22-26	Is statement about most land being managed by BLM accurate? EA's for what? Leasing? The statement about visual assessments being well documented in EAs seems like an overstatement. The implication is that additional documentation is not necessary. Suggest revising.	No SOL Kleven	For these regions, the statement is correct, in general.
4.3.5.1	4-139	36-38	Is there a possibility that these uses could occur without surface mining? Is there any land use benefit associated with not having mining occur in the first instance?	Yes SOL Kleven	Revise to read "new development of..." and add language to describe development opportunities that may accrue from lack of mining.
4.3.5.1	4-140	8-10	Will reforestation prevent such uses? If uses would be prevented only temporarily, then clarify. Are the wishes of the landowner relevant? Seems that landowner would be in the same position as before mining occurred.	No SOL Kleven	Under this alternative, reforestation would be required of lands forested prior to mining. While the landowner would eventually be able to develop the land for other uses, the requirements under this alternative would delay the implementation. Ensure that the language is consistent with the alternative.
4.3.5.3	4-140	21-22	Is this relevant to analysis of impacts? Seems like advocacy against the alternative. Delete	Yes SOL Kleven	Agree
4.3.5.3	4-140	23-30	Seems speculative and like advocacy against the requirements proposed in the alternative.	Yes SOL Kleven	Agree. Delete or revise to a more neutral discussion of impacts
4.3.6.1.3	4-144	21	Indicates average family size was used to analyze data so what is the average family size figure used here?	Yes OSM DP	Please clarify.
4.3.6.2	4-148	4	Single "s" at the beginning of the sentence.	Yes OSM DP	Change as noted
4.3.6.3	4-148	19-21	This does not seem like the correct standard. Will the shifts in coal production to new regions have disproportionate impacts to low income and minorities?	Yes SOL Kleven	Ensure that EJ language is used consistent with the Executive Order, etc.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
4.3.6.4	4-150	4-156	Organization is not consistent. This section predicts impacts in each geographic region. It is not clear why this was not done for other resources.	No SOL Kleven	Other sections discuss regional differences as well, but the nature of this analysis requires a more explicit breakout of the regional differences.
4.3.6.4.2.2	4-153	17	"*in* Colorado and Utah"? or "of coal produced from . . ."	No SOL Kleven	Unsure of the suggested change
4.3.6.4.2.2	4-153	24	"*in* Colorado and Utah"?	No SOL Kleven	Unsure of the suggested change
4.3.7.2	4-158 to 4-160		Analysis seems cursory.	No SOL Kleven	Level of analysis is appropriate for a programmatic EIS
4.3.2.1	4-122	5	Previous section needs a statement like this to help clarify.	Yes	Please add a similar statement to the previous section
4.3.2.1	4-122	12	This section leaves me totally unclear as to what the impacts are to the various regions especially the regions where mining will increase.	Yes	Change "accordingly" to "proportionally"
4.3.2.2	4-125	16	The document seems to preclude digital terrain models. Is this appropriate? Also, later in the document you mention that much of the increase could take place on federal land – does this affect this in any way?	No SOL KG	No intent to preclude DTMs. See response above
4.3.2	4-126		There is no discussion of other elements.	No SOL KG	Other elements have no impacts here
4.3.3.1.1.1	4-126	17	This is very broad. There is no discussion of each region. It leaves me unclear as to the impact on the Northern Rocky Mountains and Colorado Plateau where water is scarce and in high demand.	Yes SOL KG	More explicit discussion of impacts would be appropriate.
4.3.3.1.1.1	4-127	6	Again, this is very broad and does not really tell me what the impact will be in the regions where mining will increase.	Yes SOL KG	See above
4.3.3.1.1.1	4-128	7	It seems to say the effect on the Northern Rocky Mountains and Great Plains is minimal but it is not clear. It also seems to preclude any surface impacts with underground mining. I don't think this is accurate.	Yes SOL KG	Ensure the breakdown is accurate
4.3.3.1.1.1	4-128	13	Document compares Alternative 2 with 1. This is a discussion of Alternative 3.	Yes SOL KG	Should be revised to reflect a comparison of alternative 3 with alternative 1

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
4.3.3.1.1.3	4-129	7	This discusses water recharge rates but it is confusing and does not discuss why. The document needs more information here.	Yes SOL KG	Revise to clarify language. Confusing as written
4.3.3.1.1.3	4-130	3	It mentions that impacts could be considered temporary but does not say why. Needs more discussion here.	Yes SOL KG	Clarify what is meant in a brief way here.
4.3.3.1.2.1	4-130	21	This mentions a 15% increase in surface mining. In some places the document says an increase in surface mining and in others and increase in underground mining. It really needs to be consistent. Is it one or the other or a combination?	No SOL KG	Production shifts between regions and between mining methods vary. Commenter does not appear to understand.
4.3.3.1.2.1	4-130	24	It needs a discussion of impacts in the Northern Rocky Mountains and Great Plains Regions.	Yes SOL KG	Please expand
4.3.3.1.2.2	4-130	30	This says a 15% increase in underground coal production. Again, make this consistent and accurate.	No SOL KG	See above
4.3.3.2.1.1	4-131	13	This sentence is unclear. I don't understand it.	Yes SOL KG	Sentence needs to be revised to clarify its intent.
4.3.3.2.2.1	4-132	20	Again, the document mentions an increase in mining in some regions yet says very little as to effects in those regions.	Yes SOL KG	Impacts should at least be discussed
4.3.3.2.2.2	4-132		Again, this section fails to truly address impacts to all regions.	Yes SOL KG	Ensure appropriate level of discussion
4.3.3.3.1.1	4-133	5	This sentence is confusing. It sounds like it will reduce hydrologic impacts to the Appalachian but could increase impacts to the Northern Rocky Mountains and Great Plains Regions yet it does not discuss this.	Yes SOL KG	Ensure appropriate levels of discussion
4.3.3.3.2.1	4-134	1	Again, please discuss impacts to regions where mining will increase.	Yes SOL KG	Ensure appropriate levels of discussion
4.3.4.1	4-135	1	Explain this further.	No SOL KG	Table explains the statement
4.3.4.1	4-135	16	Seems hard to believe that wetlands acreage and function would not be temporarily impacted. Is this true? Should explain.	Yes SOL KG	Temporary impacts are expected but can be mitigated to prevent permanent impacts
4.3.4.1	4-135	20	The last sentence is confusing. Should be clarified.	Yes SOL KG	Comma is misplaced, changing the meaning. Should read "...topography is restored, wetland development would follow over time."
4.3.4.1	4-136	5	Should explain this further. Also contradicts page 4-135 sentence 20.	Yes SOL KG	Differences between the paragraph on page 4-135 and this paragraph needs to be

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
					clarified.
4.3.4.2	4-136	31	Needs further explanation.	Yes SOL KG	Text needs to be clarified.
4.3.5.2	4-139	22	This sentence seems to contradict sentence earlier in document regarding problems with state implementation.	No SOL KG	Disagree with comment. Not sure how it relates.
4.3.5.2	4-139	29	This is the first time we have heard about impacts to federally owned lands. Should this be discussed anywhere else?	Yes SOL KG	Ensure that federal land issues are discussed in all appropriate sections
4.3.5.2	4-140	8	The last sentence seems strange to me. Could this preclude this alternative?	Yes SOL KG	Revise as above.
4.3.5.3	4-140	21	The last sentence is also strange.	Yes SOL KG	Delete last sentence of this paragraph. Does not add materially to the document.
4.3.6			My comments here are aligned with my general comments throughout the document – too much focus on the potential indirect impacts of the proposed rules on the level of coal production. Again, the discussion in this section compares the adverse socioeconomic effects depending on the decrease of coal production AS AN INDIRECT result of additional permitting requirements. The purpose of the document should be on the direct impacts of the requirements themselves. I am surprised to see that nearly half of the discussion on Alternative 3 is devoted to potential changes in employment, earnings and income, taxes, transportation utilities, safety and health impacts all due to changes in coal production. I don't see the direct connection between a change in permitting requirements and these socioeconomic impacts.	Yes SOL Deben	Revised benefits and impacts discussions will be created.
4.3.6.3	4-148		This section is severely lacking and problematic to me. These communities probably would not have equal access to the decision-making process. Also, in some regions there could be an increase in environmental consequences yet it fails to discuss this in this section and whether it will have and environmental justice effect. Please see Executive Order 12898 of February 11, 1994.	Yes SOL KG	Revise to ensure consistency with E.O. and response above
4.3.6.4.1	4-149		This section finally discusses effects to the various Regions in more detail than previous sections. However, it seems like there could be significant impact to utilities in particular regions yet there is very little discussion. I think it needs more.	No SOL KG	Discussion of utilities at appropriate detail for this programmatic EIS

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
4.3.6.4.2.1	4-150	28	It seems like some of the impacts to rail systems should also be included in the socioeconomics section.	Yes SOL KG	Include appropriate discussion
4.3.6.4.2.1	4-151	19	Should there be more of a discussion of the impacts associated with capital improvement projects?	No SOL KG	Beyond the scope of the EIS.
4.3.6.4.2.2	4-153		It also seems like impacts to the barge industry should be included within the socioeconomics section.	Yes SOL KG	Include appropriate discussion
4.3.6.4.2.2	4-153	34	Should this contain a discussion of environmental consequences of increases barge use in these regions?	Yes SOL KG	Discuss as appropriate
4.3.6.4.2.3	4-154		Again, some of the consequences listed throughout this section should also be included within the socioeconomics section.	Yes SOL KG	Include appropriate discussion
4.3.6.4.2.3	4-154	25	Should this contain a discussion of environmental consequences to the Colorado Plateau (same as for Illinois Basin and Northern Rocky Mountains and Great Plains Regions)? Are there Forest Service Roadless Areas that could be affected?	Yes SOL KG	Include appropriate discussion
4.3.3.2	120	33-35	This sentence is clumsy. It says surface mining in the 2 areas will see increases in surface mining production. Needs to be reworded	Yes OSM KG	Reword for clarity
4.3.1-1	122	1	All tables of this type (all alternatives) should include a percent change from Alt 1. Difficult for the reader to flip back and forth to see what the projected changes are.	Yes OSM KG	Add appropriate column(s) to address percentage changes
4.3.2.2	125	13-16	While digital models will allow for more detailed analysis of the existing topography along with the porposed grading plan and the as-built configuration, any pre-mine analysis will be severely limited by the availability and detail of pre-mine model data. The applicant will be able to provide a snap shot of what the site is like now, but the document suggests that a detailed analysis of pre-mine geomorphology and fluvial process will be possible. This is only if there is sufficient data available. This is not very likely in most cases.	No OSM KG	Observation not substantiated by reference. Appropriate DTMs will allow such analyses.
4.3.1.1	4-120	8-15	Pre-mining condition may be heavily impacted by pre-law impacts. Remining with current reclamation standards and mitigation could result in improved form and function compared to the current pre-mining condition. Current reclamation practices will better restore form and function than the old traditional trapezoidal rip-rap channels.	No (VA)	Agree with comment, but do not see any necessary changes to the document.
4.3.1.1	4-120	16-23	Contrary to the statement, longwall mining does cause subsidence, even at depth. Longwall mining is not necessarily	Yes (in part) (VA)	See changes above. Disagree with change from "caloric"

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			more economical than continuous miner sections. Longwall mining is restricted to larger boundaries with little variation in coal bed thickness, and is not as flexible as continuous miners in the face of changing geologic conditions. Replace "caloric" with "BTU".		
4.3.2.2	124	5-8	How would landforming provide benefits related to long-term drainage stabilization, minimization of erosion potential, and reduction in long-term maintenance? The placed material and constructed channels would be shaped differently, but just as susceptible to forces that tend to cause problems on existing sites.	Yes (in part)(VA)	Geomorphic reclamation creates more stable landforms. Add language to further emphasize those benefits
4.3.2.2	4-125	7-10	Refuse fills must be engineered for safety first and foremost. Closure plans are subject to approval by MSHA, and there is no guarantee MSHA will allow landformed refuse fills. If no slurry impoundments are allowed, how would slurry be disposed?	No (VA)	There are many other ways of disposing of slurry without impoundments in drainages, including slurry cells, underground injection, etc. Analyses of these issues are beyond the scope of this EIS
4.3.3.3.1.1	4-133	5-7	This hypothesis is not supported by any cited scientific study or documentation, include supporting data.	Yes (VA)	Add citations of appropriate supporting studies/documentation.
4.3.3.3.1.2	4-133	11-13	Salvaging organic material during clearing and grubbing is a good concept; however, on-site storage is uneconomical and practical. In Virginia, woody debris is normally readily available at the time of mitigation.	No (VA)	No changes suggested in comment.
4.3.3.3.1.2	133	20-22	This may be true in the post-mining phases; however, I'm curious as to how it will significantly reduce erosion during active mining phases.	Yes (VA)	Revise wording to better explain the concept
4.3.3.3.1.2	4-133	24-25	"Use of native species…is expected to further reduce erosion…" is simply incorrect. Certain introduced species, as well as invasive species, can effectively reduce erosion. Please consider deleting this sentence as it is not needed for the intent of this paragraph.	No (KY)	The "micro-landforming" portion of this sentence is of great importance, particularly to reduced erosion.
4.3.4.1	4-134 4-135	28-34 1-2	Comparing the predicted stream impacts from Appalachia to the Great Plains region on an equivalent basis may indicate a benefit; however, water resources have differences in	Yes (VA)	Revise to indicate that there is not an equivalency of impacts among regions, and that the

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			ecological value. More arid regions will likely have more fragile ecosystems due to limited water resources. This should be investigated further before making this assumption.		magnitude of the impacts based on proportional changes in coal production may vary based on regional factors such as water scarcity or abundance.
4.3.4.3	4-137	5-12	It is questionable at best that the assumptions noted here would likely ensure greater success of reclamation. For example, topsoil **or the most suitable topsoil substitute must be used.** (Existing topsoil may not be suitable or essentially non-existent. Numerous scientific reports detail that soils developed from selected mine spoils are more productive than native topsoil. Native grasses have poor records for establishing a diverse and permanent vegetative cover. Non-invasive introduced species are far better at meeting the goals of SMCRA. Using native grasses would likely allow more alien invasive species to colonize the mined land. Native hardwood seedlings should be planted following the Forestry Reclamation Approach. Conclusions in this alternative based on the questionable assumptions are also subject to doubt.	No (VA)	Commenter does not provide citations for studies to substantiate the concerns raised. Not sure what changes to the document are being suggested.
4.3.4.3	137	6	OSM has always required that the landowner be consulted during the reclamation plan design. This statement indicates that the surface owner will no longer have any say in the final reclamation of the property. Are the landowners going to be totally ignored during the process?	No OSM DB	Chapter accurately reflects the alternative, which is NOT OSM's preferred alternative.
4.3.5	138	33	Typo: As restrictive **as** Alternative 2.	Yes OSM DH	Change as appropriate
4.3.6.1.1.1	4-141	18-29	Even though mining employment may increase in some regions (how do you justify the 15% increase in the Northern Rocky Mountains and Great Plains?), there would likely be enough unemployed citizens in those areas to quickly fill those jobs. This alternative seems to simply shift unemployment from region to region. It is unlikely that miners from Appalachia would migrate to the Illinois Basin and Colorado Plateau to continue mining.	No (VA)	Comment does not suggest changes to the document
4.3.6.1.1.3	143	Table 4.2.6-3	Net Change in Unemployed column does not appear to be a percent	Yes	Please ensure columns in the table are accurately labeled.
4.3.6.1.3	4-144	17-29	Employment opportunities in the Appalachian basin are very limited. Poverty would definitely increase in this region.	Yes (VA)	Ensure that the discussion reflects regionally important

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
					issues related to employment and poverty
4.3.6.1.4	4-145	12-16	To adequately assess impacts to AML programs, the EIS should calculate this on how it impacts separate state and tribal AML programs. Virginia would likely go to a minimum program. Impacts to the UMWA combined benefits fund must also be considered. Even though fee collections may remain stable, AML grants to states and tribes would be impacted, especially after 2015.	No (VA)	This detailed analysis, while important to the individual states, goes beyond the scope of this EIS. Current discussion of AML fees is adequate for this document.
4.3.6.3	4-148	19-21	The environmental justice sections throughout the EIS do not adequately consider impacts to minority and low-income communities. The generic statements to address this are an affront to any American citizen who is a minority or lives/has lived in a low-income community.	Yes (VA)	Revise to ensure consistency with E.O. and response above
4.3.6.4.1	4-149	2-5	Electricity rates should be considered and discussed in this section.	No (VA)	The decision was made that such a discussion is beyond the scope of this EIS
4.3.6.4.2	4-150	18-27	Include discussion on transportation infrastructure impacts from shipping coal from Western US to Eastern US for power plants.	No (VA)	The decision was made that such a discussion is beyond the scope of this EIS
4.3.2.1	4-122	5-6	This sentence does not make sense.	No DD OSM Hydro Team	Sentence means that regulations are more enforceable than current policy statements. Correct as written
4.3.3.1.1.2	4-128	10	The reported shift in affected stream length for the Appalachian area with Alt 3 as compared to Alt 1 is expected to be from ~28 mi/yr to 15 mi/yr. Where did these values come from? In Table 4.1.3-2, the total amount of stream impacts under Alt 1 is expected to be ~71 mi/yr as compared to 52.52 mi/yr under Alt 3 (Table 4.3.3-1).	Yes DD OSM Hydro Team	Please ensure consistency
4.3.3.1.1.2	4-128	14	Is this supposed to read Alternative 3 instead of Alternative 2?	Yes DD OSM Hydro Team	Change to "3" as above
4.3.3.1.1.3	4-128	16-17	Why is this material under the Groundwater section?	Yes	Put in appropriate

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
				DD OSM Hydro Team	section
4.3.3.1.1.3	4-128	16	Is Table 4.3.3-6 supposed to be 4.3.3-1?	Yes DD OSM Hydro Team	Change as appropriate
Table 4.3.3-1	4-129		Many of the values listed under "% Change from Alt 1" do not appear to show a relationship with values listed in Table 4.1.3-2.	Yes DD OSM Hydro Team	Revise as appropriate
4.3.3.1.1.3	4-129	3-9	See General comment #3.	No DD OSM Hydro Team	Unsure how to address
4.3.3.1.1.3	4-129	10-13	Should this be under the Surface Water section? What about the other regions??	Yes DD OSM Hydro Team	Revise/move as appropriate
4.3.3.1.1.3	4-129	19	The assertion that groundwater quality is too degraded to matter a highly generalized statement. Provide the source material for this statement.	Yes DD OSM Hydro Team	See resolution above
4.3.3.3.2.2	4-134	6-7	Utterly confusing.	Yes DD OSM Hydro Team	Revise to make meaning clearer
4.3.1.3	4-121	17	What does it mean that "topsoil material will be composed "? The permittee is required to replace the premine soils or a substitute that is the best available and equal or more suitable than the existing topsoil.	Yes BJ OSM	Ensure language is clear about this alternative consistent with above.
4.3.4.3	4-137	5	Topsoil has to be salvaged and replaced on the reclaimed area unless you have an approved soil substitute. Under soils substitution the permittee must demonstrate that the substitute material is equal or more suitable than the existing topsoil. So the soil resource that is placed back on the mined surface is the best available soil material that is best able to support the intended post mining land use. So if the pre-mine soils are not the best available then it would not be reused on site.	Yes BJ OSM	Ensure language is clear about this alternative consistent with above.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			Replacing an inferior soil material would not be the best practice under this alternative.		

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	Section 4.4
Contact Information	
Name	
Telephone Number	
Email	

Section	Page #s	Line #s	Comment	Author	Incorporate (Yes/No)	Proposed Disposition
4.4.4	All	All	Again, this section does not discuss impacts to listed species	CW	Yes	Contractors should ensure impacts to listed species should be made.
4.4.5	174	3	Table 4.4.5-1 needs note that column 4 "Percent Change from Baseline (No Action Alternative) is calculated from the Affected Streams and not the Affected Area		Yes	Include notation
4.4.5	175	3	Table 4.4.5-1 needs note that column 4 "Percent Change from Baseline (No Action Alternative) is calculated from the Affected Streams and not the Affected Area		Yes	Include notation
4.5.5	211	3	Table 4.5.5-1 needs note that column 4 "Percent Change from Baseline (No Action Alternative) is calculated from the Affected Streams and not the Affected Area		Yes	Include notation
4-4	160 - 195		Discussion of Alternative 4 seems to be a wasted effort because at this time OSM does not propose rules that are less effective than the current rules.		No	Not constructive
4.4	160		This Alternative is very well written and could be used as a template to make the rest of the alternatives easier to follow.		No	Comment noted
4.4.3.1.1.1	4-165	33-34	The statement should be reworded to include baseline surface water and ground water quality and quantity data. Also, that the monitoring plan requires relevant monitoring site locations.		Yes	Include the edits
4.4.3.1.1.1	4-196	35-38	This statement assumes that the baseline and compliance monitoring sites are in relevant geographic locations, relative to the mining permit. Quarterly sampling is a regulatory sampling frequency and is not frequent enough to discern a		No	No action needed.

Section	Page #s	Line #s	Comment	Author	Incorporate (Yes/No)	Proposed Disposition
			pattern of hydrologic impacts; monthly sampling is needed for a truly scientific assessment.			
4.4.1.1	4-161	3	The correct citation is 40 CFR 230.3(s).	DD OSM Hydro Team	Yes	Change citation as appropriate
4.4.4.3	4-174	12	What is meant by "topsoil does not necessarily have to be reused on-site"? This is extremely confusing since they would need to salvage and replace all of the topsoil on the reclaimed area unless you have an approved soil substitute. Under soils substitution the permittee must demonstrate that the substitute material is equal or more suitable than the existing topsoil. So the soil resource that is placed back on the mined surface is the best available soil material that is best able to support the intended post mining land use.		Yes	Include writing to expand this statement to clarify use of soil substitution under SMCRA.
4.4.5.2	4-176	4	What are some examples of "optimization techniques"?		No	No. This is a federal rule that will later consider appropriate state optimization techniques when states propose them for their approved programs. Also, FPOP and AOC plus are already provided as examples earlier In the document.
4.4.5.2	4-176	11-16	Based on the visiual impact assessment discussed here, will a visiual impact assessments change be required?		No.	No.
4.4.6.1.3	4-180	16	Indicates average family size was used to analyze data so what is the average family size figure used here?		Yes	Contractor should note family size
4.4.5	174	3	Table 4.4.5-1 needs note that column 4 "Percent Change from Baseline (No Action Alternative) is calculated from the Affected Streams and not the Affected Area		Yes	Include notation
4.4.5	175	3	Table 4.4.5-1 needs note that column 4 "Percent Change from Baseline (No Action Alternative) is calculated from the Affected Streams and not the Affected Area		Yes	Include notation
4.5.5	211	3	Table 4.5.5-1 needs note that column 4 "Percent Change from Baseline (No Action Alternative) is calculated from the Affected Streams and not the Affected Area		Yes	Include notation

Section	Page #s	Line #s	Comment	Author	Incorporate (Yes/No)	Proposed Disposition
4.4.2.2	4-164	16-17	How can the No-Action Alternative (1) apply to a broader area than current policies? Aren't they the same?		No	A no-action alternative means OSM will revert to the 2008 rule, which has not been adopted by states. If this occurs, it would have a broader impact than the current policy.
4.4.5	4-175	5-6	A question of logical progression of discussion between alternatives regarding visual resources arises. It appears that consideration of visual resources under alternative 4 (little to no documentation for visual resources required except on federal lands) is the same as under alternative 1 while alternatives 2 and 3 provide more documentation, protection and/or impacts to visual resources are likely lessened. Yet the statement on lines 5-6 remains unchanged. If the statement is correct throughout why not put visual resources in the group under 4.0.4? Clarify.		No	No. alternative 4 is less environmentally protective.
4.4.2.2	4-164	1-24	Evaluation of this alternative is not possible due to the inadequate explanation in Chapter 2. Alternative 4 contains no such discussion.		No	Not constructive
4.4.4.1	4-34	2	The second footnote on the table provided in support of data for the final column of the table, "Range of Concentrations From Downstream of Mine Sites" is insufficient to make it clear that this data is only representative of water quality from mine sites in a particular region of the US and is not necessarily representative of all coal regions.		Yes	Amend footnote
4.4.4.2	4-173	34-37	Despite the substantial unknowns it is possible that new mine sites developed in the future under this alternative would have fewer adverse impacts to upland and hence archaeological sites and historic structures and districts compared to the No Action Alternative because regulatory authorities may not allow AOC exceptions.		No	Rejected, comment is in wrong location.
4.4.5.1	4-175	13-16	More restrictive definitions of streams and material damage, as well as limitations on activities near streams or on mining through streams, would reduce the potential for effects on visual impacts to historic structures, districts and landscapes as well as direct effects on archaeological sites.		No	While the comment is true, the EIS as written adequately addresses this issue..

Section	Page #s	Line #s	Comment	Author	Incorporate (Yes/No)	Proposed Disposition
4.4.5.1	4-176	10-13	Where visual impact is not usually well documented the continuation of the existing practices can result in visual impacts to historic structures, districts, and landscapes.		No	NHPA should provide sufficient protection for damages to visual impacts.
4.4.6.1.1.1	4-177	25	The Appalachian Basin and the Colorado Plateau would be expected to experience the greatest losses of historic structures and districts as residents depart for jobs in other areas		No	Beyond the scope – argument is speculative in nature.
4.4.4.3	4-174	12	This line states "Topsoil does not necessarily have to be reused on site." We are confused as to the meaning of this sentence as all topsoil must be removed and replaced in the permitted area. If topsoil does not have to be reused on site currently then what other areas does OSM believe topsoil can be utilized?		No	Referred to in earlier comment. See above.
4.4.3.1.1.2	4-165	25-27	Regarding the following statement: "The 5% projected increase in surface mining in the Northern Rocky Mountains and Great Plains indicates the belief that streams in this region have been previously impaired, most likely by gas extraction activities." It is incorrect to assume without any concrete justification and explanation that there would be a 5% increase in production in these areas, as stated. Please include your source. Also, this statement belongs in the section discussing the model assumptions.		Yes	Quote is actually on 4-166; agreed; should include source material to verify.
4.4.3.1.1.2	4-166 EPA	28-32	There are numerous stressors that contribute to the impaired streams list in the Appalachian Basin, not solely mining as you infer.		Yes	The EIS ought to include other activities that might contribute to impacts.
4.4.3.1.2.1	4-168 EPA	11-22	For balance, the EIS should also reference water quality improvements that are accomplished through remining.		Yes.	Duplicate comment. The EIS needs to provide more detail regarding the environmental benefits of remining.
4.4.4.1	4-173 EPA	1	Earlier in the document this was the Reclaimed Desirable Plant Community concept (RDPC) now reclaimed is dropped. Please adjust for consistency.		No	This is included in alternative 4 and is not dropped.
4.4.6.4.1	4-184 EPA	7-10	Electricity rates should be considered and discussed in this section.		No	A discussion of electrical rates was considered beyond the scope of this EIS.

Section	Page #s	Line #s	Comment	Author	Incorporate (Yes/No)	Proposed Disposition
4.4.6.4.1	4-184 EPA	11-20	The EIS should note that many communities and households in the Appalachian basin are not served by wastewater treatment facilities. Treatment capacities do not have any meaning in these households and communities.		Yes	The EIS needs to expand its discussion of this issue.

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	Sec. 4.5 / Alternative 5 Comments
Contact Information	
Name	combined
Telephone Number	
Email	

throughout			The abbreviation "S/B" means: "should be [Revise to read]:"	OSM / Sylvester-Bovard		
4.5.8-6 Table	4-247	Table 4.5.8-6	The combined socioeconomic effects of CWA reinterpretation and SMCRA stream buffer alternatives would potentially be more than negligible, please reconsider.	Virginia	No	The table is presented to show each action and the impact that action has had in the past, is having in the present, and will have in the future. The table was not intended to and is not amenable to combining the impacts of all actions.
4.5.1-1	4-198	1	Include percent change from Alternative 1 in table	OSM / Garnett	Yes	
Table 4.5.1-1	4-198	1	Production impacts for the Appalachian basin show a decrease of nearly 50 million tons from the 2008 data listed ion page 4-5, yet you say on page	W. Virginia		Comment was incomplete
Table 4.5.8-1	4-237		Action: CWA TMDL Program-Future Action: The TMDL program in Kentucky, is and has been, underfunded and understaffed. An increase of TMDL determinations beyond present levels is not expected.	Kentucky	No	Impacts of regulatory statutes are being presented on a national level
4.5			This discussion names the principal elements of the preferred alternative, but I could find no summary or description of the	OSM / Sylvester-Bovard	Yes	A summary of the alternative at the

			elements. Please add descriptions or summaries, or add a reference to the part of the EIS where the elements are summarized.			beginning of each Chapter 4 alternative discussion.
4.5 throughout			This chapter would be improved by adding a summary comparison of the impacts of the preferred alternative with those of all other alternatives. Such a concise comparison would give the EIS significantly greater decision making value, because it would facilitate comparison of the alternatives. Under NEPA, an EIS must inform decisionmakers of how the various alternatives compare with each other as to their impacts. See, e.g., 40 CFR 1502.14. I recommend that, in order for this DEIS to function more effectively to inform decision makers and commenters, you revise it to set out all impacts of Alternative 5 in the discussion of that alternative, so that it does not merely cross-reference a discussion of impacts for another alternative. A document that requires a decision maker or commenter to thumb back and forth between different alternatives in order to find the impacts of the preferred alternative is inconvenient and unnecessarily time-consuming and will make the reader lose the thread of the discussion. In short, it is confusing, and does not facilitate comprehension or evaluation. The EIS would function more effectively for decisionmakers, if the analysis of impacts for the Preferred Alternative followed directly after the analysis of impacts for the No Action Alternative. If you can re-order the evaluation of alternatives in this way in Chapter 4, I strongly recommend that you do so. This would limit the amount of time the reader has to spend finding the description of the impacts of the preferred alternative. That description will be a primary focus of decision makers' review.	OSM / Sylvester-Bovard	No Yes	Such a comparison can be observed in Chapter 2 of the EIS. A more comprehensive presentation of alternative 5 needs to be included as it represents the preferred alternative and warrants and more thorough, detailed and comprehensive presentation that the other, non-preferred alternatives. While a reordering of the alternatives is not believed to be necessary, a narrative explaining how the preferred alternative (#5) directly compares to the No action alternative would be very advantageous to reader understanding. Moreover, understanding of the EIS would be greatly assisted with an explanation of the "Methodology" (Section 4.7) would precede the

						presentation of the 5 alternatives.
4.5			Please use one term consistently to refer to projected impacts. I believe "projected" is preferable in most cases, rather than saying "expected", or "predicted", or "anticipated," or referring to impacts that "may" occur. Choose the most accurate term and use it consistently. The basic canon of construction is that if you use different words, you mean different things. We don't want to have to explain away differences that were not intended. I believe that in most cases, we should be discussing projected impacts, and not expectations, predictions, or anticipations about impacts; and in most cases it is not helpful to focus on things that are so speculative or uncertain that they only "may" occur, or are only a "worst-case scenario"—unless we discuss a range of possibilities, and identify the most likely. Similarly, please try to be consistent in making clear whether projected impacts would be adverse or beneficial. Sometimes the context is simply so non-specific that it does not make clear whether we are referring to adverse or beneficial impacts. And in many instances, this chapter simply does not give meaningful information about what the impacts are. In general, the EIS needs much more information about, and analysis of, impacts. As discussed below, in particular we need more discussion of the impacts of the preferred alternative's new requirements, on stream resources.	OSM / Sylvester-Bovard	Yes Yes	Consistent use of terminology would assist reader understanding. Additional explanation regarding adverse or beneficial impacts would assist in reader understanding.
4.5	4-195 +		Alternative 5. It would seem to me that the reason we are now doing this evaluation is that the rules currently on the books are not being enforced and that IN more recent years the interpretations of what is acceptable has long moved away from original the concept of minimizing disturbance associated with mining – regardless of where it occurs. Specificially in the early 1970's companies in the east doing MTR had to make a concerted effort to mine responsibly – no shoot & shove, which is what has evolved over time w/ lax interpretations and enforcement. Another citing of this is in section 4.7.5 (page 4-267) where a long discussion of a change and suitability of the post mining land use (pmlu) addresses only the effects – nothing about the	OSM / Jass	No	

			mining companies or RA being tasked with taking responsibly for evaluating and making the appropriate decision when considering any pmlu.			
4.5.1	ALL	ALL	Preferred alternate sets forth regional standards without regard to sub-regional differences in geology or mining practices	Virginia	No	The EIS does NOT set forth regional standards. It just describes regional impacts.
4.5.1	4-195 to - 198	General	The "production Shift Mathematical Model" alluded to in Section 4.5.3.1.1.3 (page 4-201 lines 29 to 30) and vaguely described in Section 4.7.1 needs to be provided in order to comment adequately on the draft statement's analysis. There is no discussion specific to Alternative 5 describing the assumptions associated with the production shift values presented. From a review of the scant information provided in Section 4.7, it appears that surface mining and underground mining were evaluated as either "affected" or "unaffected" by Region for each alternative. Coal production was then adjusted such that increased production from "unaffected" regions would compensate for production lost from "affected" regions so to keep constant energy production (BTUs). No summary of the "affected" and "unaffected" mining methods by region is provided in Section 4.5.1 for Alternative 5.	Utah	Yes	Move Section 4.7 "Methodology" to the front of Chapter 4 to facilitate a better understand of the rationale used to generate an analysis of the alternatives. Also, given that alternative 5 is the preferred alternative, all explanations relative to that alternative should be strength so as to make its description able to stand along.
4.5.1	4-195	16-17	These two lines should be deleted, and the following language should be inserted: "the operation would not be permitted unless the applicant demonstrated that the proposed operation would not cause material damage outside the permit area."	OSM / Sylvester-Bovard	Yes	
4.5.1	4-195	14	Should specify that the preferred method would not allow material damage to the hydrologic balance **outside the permit area**.	DD OSM Hydro Team	Yes	
4.5.2	4-198	5-14	So you say the impacts will decrease in Appalachia, but increase in the west? Is that OK? Somehow it doesn't seem to make sense.	W. Virginia	No	The impact analyzes are acceptable as presented in this reference.
4.5.2	4-198 -199	3-3	This section contains essentially no useful information. The preferred alternative should be able to stand on its own, not have to refer back to previous sections to discuss what the impacts are. I understand not wanting to be repetitive, but still	OSM / Garnett	Yes	Duplicative of other comments. Alternative 5 needs to stand on its own.

			there should be some discussion of the impacts here other than just see alternative 3. I see no value at all in this section.			
4.5.1.1	4-198	1	This table provides final production impacts for Alternative 5. When compared to the status quo figures from Section 4.1.1-1, the table shows a slight increase in coal production for the Illinois Basin. The narrative discussion Section 4.5.6.2.2 states production in Indiana is expected to decrease 2% while Illinois production is expected to increase 33% beneath Alternative 5. It does not appear sufficient thought has been put into these projections given the previous discussion at Section 4.5.1.1 concerning longwall operations, and the fact that approximately 80% of Illinois production today is from underground techniques and a large percentage of increased production would be by longwall operations. The statements pertaining to stream use and potential inabilities of a regulatory authority to approve a longwall application if any decrease in the level of an intermittent or perennial stream may not be possible could have a significant impact upon Alternative 5's projected Illinois increase and the overall national prediction of a slight increase in production using Alternative 5. Moreover, there is no specific discussion as to the rationale and assumptions used in making these determinations of production impacts region to region. Should this rule be implemented, the overall impact to the production and ability to attain the constant coal production for electricity generation for the next fifty years, as stated in Section 4.7.1.1, is questionable.	Indiana	Yes	The commenter makes a point. To predict an increase in Illinois Basin underground coal production is hard to reconcile when the document predicts a decrease in longwall coal production in the Illinois Basin. Please consider this comment to assure that there is a defensible logic for making the prediction that underground production within the Illinois Basin will increase by nearly 10 million tons under this alternative. Moreover, the impact of alternative 5 on longwall mining of streams has not been accurately represented.
4.5.1.1	4-196	1-34	I've included below the section on which I am commenting. This section is at the beginning of the Alternative 5 (Preferred Alternative) section. The expected negative impacts on longwall mining that are stated need to be seriously considered. Significant amounts of Ohio coal are produced by the longwall method. The examples (such as stated in lines 24 to 27) of stream impact from longwall mining happen frequently. Therefore, it is reasonable to presume that most longwall permits would not get issued. I am not taking sides on that aspect, but do want to point out what appears to be an acknowledged significant impact on longwall mining. This needs to be considered in more than a passing manner.	Ohio	Yes	Duplicative of other comments. The EIS as written does not accurately represent the impact of alternative 5 on longwall mining of streams. This section will be written. Additionally, the EIS also needs to be

			In addition, it is stated that excess spoil fills would be permitted under certain circumstances (line 16), but the conditions under which they would be allowed (lines 17 to 24), that is, restoring function OF THE STREAM SEGMENT, are precluded by the presence of the excess spoil fill. **"4.5.1.1 *Water Elements*** 2 Material damage under this alternative would be defined as a measurable adverse impact on 3 water quality and quantity resulting in degraded physical or biological conditions that would 4 preclude the designated use or reasonably foreseeable use of that waterbody. Impacts from 5 underground mining, such as subsidence, would not be allowed to cause material damage at any 6 time during the operation, and if material damage is a reasonably foreseeable consequence due to 7 mining operations, a permit might not be issued by the RA. This could curtail surface mining 8 methods that use excess spoil disposal fills and underground mining methods that cause 9 subsidence. Fill areas, by their very nature, would alter any designated use of the stream 10 segment that is covered by the fill footprint. Subsidence caused by underground longwall 11 mining or room-and-pillar retreat mining could dewater a stream segment, which would also 12 alter the designated pre-mining use of that stream. Therefore it is predicted that surface mining 13 practices using fill areas and longwall operations could be negatively impacted in those regions 14 that contain high populations of intermittent and perennial streams. 15 Mining activities would be restricted within 100 feet of intermittent and perennial streams under 16 Alternative 5, but excess spoil disposal fills would be allowed under certain circumstances. If 17 the applicant can demonstrate that the mining activity would not preclude any pre-mining or			rewritten relative to the circumstances in which fills would be allowed to be placed in streams as it does not include all of the factors which might allow for the placement of fills.

			18 designated use of the affected stream segment, then those activities may be allowed. In addition, 19 the applicant would have to show that stream form and function could be restored, and that the 20 operations would not have more than a de minimis effect on the ecological function of the stream 21 after reclamation, and would not cause material damage or contribute to a violation of water 22 quality standards. Again, this alternative relies on the applicant's ability to restore form and 23 function to a stream segment, which may or may not be possible depending on the specific 24 stream conditions and mining method utilized. For example, if it is predicted that a longwall 25 operation under a stream would cause that stream to experience a decrease in elevation, it would 26 be reasonable to assume that returning the stream to pre-mining elevation would be difficult if 27 not impossible. Therefore, the RA would not issue a permit for the longwall operation. It is 28 anticipated that those regions with high perennial and intermittent stream frequencies, such as the 29 Illinois Basin and Appalachian Basin, would experience a decrease in surface area, mountaintop 30 removal and longwall method operations. Regions with low stream frequency values or 31 extremely deep coal seams that would avoid subsidence, such as the Northern Rocky Mountains 32 and the Great Plains and the Colorado Plateau respectively, would remain relatively unaffected 33 by the water elements of this alternative, except for longwall mines in areas of relatively shallow 34 overburden."			
4.5.1.1	4-196	15-34	I'm concerned that you don't understand the proposed regs and how to apply them correctly. I don't believe this paragraph accurately describes the intent of the proposed regs.. For example, the sentence at line 15 needs to be modified. The proposed regs do not contain a prohibition on mining through streams. This sentence infers that mining is not allowed	BM OSM Hydro Team	Yes	As currently written, line 15 could be read to imply that mining under Alt. 5 is prohibited. Please make it clear that

			through inter and perennial streams but the next sentence then indicates mining would be permitted if form and function could be restored.			under Alternative 5, mining within 100 feet of a stream can only occur if the operator can meet certain requirements.
4.5.1.1	4-196	2-14	The switching back and forth between surface mining and fills and underground mining and subsidence is confusing. Surface mining and fills should be discussed fully followed by a discussion of underground mining effects.	DD OSM Hydro Team	Yes	Please reorganize the presentation of this paragraph as suggested to make the discussion more succinct.
4.5.1.1	4-196	19-30	The narrative states that the applicant would have to show that stream form and function could be restored. While restoring stream form is common practice, restoring stream function is a combination of multiple factors and a time component that may not be immediately possible to reproduce. The example given regarding not allowing longwall mining under streams if there would be a lowering of elevation is inappropriate. An elevation change in and of itself would not necessarily be a failure to restore form and function.	Virginia	Yes	The EIS relative to impacts to streams from longwall mining has not been correctly represented. Alteration in designated use and not form and function are the correct standards applicable in alternative 5.
4.5.1.1	4-196	4-13	A brief summary of the water elements should be added here. A policy maker could not read this discussion of water elements and correctly understand what the water elements are, even in general. This paragraph should be revised to more accurately reflect the proposed rule, which prohibits material damage to the hydrologic balance <u>outside the permit area</u>. The draft language should also be revised to accurately reflect requirements for fills in, e.g., 780.28(d). S/B: ". . . foreseeable use of that water body. Permit applicants would have to design and construct excess spoil fills to avoid causing material damage to the hydrologic balance outside the permit area. Excess spoil fills would have to meet the requirements of 780.28(b) or (d), as applicable. Further, surface impacts from underground mining, such as subsidence,	OSM / Sylvester-Bovard	Yes Yes Yes	The EIS needs to clearly differentiate between the

			would not be allowed to cause material damage to the hydrologic balance outside the permit area; and if the applicant could not demonstrate in the permit application that the underground operation would not cause such material damage, the RA must not issue a permit. If subsidence or other surface impacts of underground mining would dewater a stream segment, that impact could preclude a designated use or reasonably foreseeable use of a water body outside the permit area. Such an impact would be deemed prohibited material damage. We anticipate that these new permitting requirements would add limitations on full-extraction underground mining, in regions that contain high populations of intermittent and perennial streams. In those instances, underground mine permit applicants might decide to utilize mining methods or techniques that avoid such impacts."			dewatering of streams (change in designated use) caused by u/g mining, including the affects of subsidence and the subsidence of streams caused by longwall mining that DO NOT result in dewatering or a change in designated use. Impacts caused by underground mining that result in changes in stream designated use are not allowed under alternative 5. Impacts that do not result in a change in a stream designated use are not prohibited.
4.5.1.1	4-196	22-30	S/B: "quality standards. Essentially, this alternative would require an operator to demonstrate restoration of form and function to each stream segment before mining through succeeding segments (unless the operator could demonstrate that such restoration had been successful on similar segments). This may not always be possible, especially in regions with high populations of intermittent and perennial streams. In those regions, operators might need to utilize mining methods or techniques that avoid or minimize the need for such restoration. Thus, in some locations this could lead to decisions not to use mining methods such as mountaintop removal mining or full-extraction underground mining. Regions with low stream. . . "	OSM / Sylvester-Bovard	Yes and No	Under the alternative 5, the restoration of form and function are required for surface mining operations mining through streams. Restoration of form and function does not apply to underground mines outside the permit area.
4.5.1.1	4-196	18-24	The proposed action clearly includes a demonstration of restoration of form and function before another stream can be mined through. This provision has not been discussed with respect to impacts to production or environment.	OSM / Calle	Yes	Please acknowledge this fact and incorporate a discussion of this at an

						appropriate location in this document.
4.5.1.1	4-196	27-31	Alternative 5 may result in more limited effects on historic properties than any other alternative. It is anticipated that those regions with high perennial and intermittent stream frequencies, such as the Illinois Basin and the Appalachian Basin would experience a decrease in surface area, mountaintop removal and longwall methods operations,resulting in fewer impacts to archaeological sites, and historic districts, structures ad landscapes.	VA SHPO	No	Have already suggested that the contractor revise section 4.0.4 to reflect the fact that as the extent of mining may increase or decrease in any given region under the different alternatives, the potential to impact these resources would increase or decrease accordingly.
4.5.1.1	4-196	10-14	How can you say that longwall operations could be negatively impacted in those regions that contain high populations of intermittent and perennial streams (the Appalachian basin) and yet you predict an increase in underground mining. Especially in Pennsylvania where I would guess majority of tonnage comes from longwall mining.	W. Virginia	Yes	The EIS needs to be rewritten with regard to subsidence and stream impacts.
4.5.1.1	4-196	15-18	The first two sentences of this paragraph appear to conflate the draft rule's requirements for mining near streams with the requirements for mining through streams, and with the requirements for construction of excess spoil fills in streams. OSM should ensure accurate characterization of the different rule provisions.	OSM / Sylvester-Bovard	Yes	Duplication of other comments. This discussion of mixed concepts in the same paragraph is extremely confusing.
4.5.1.1	4-196	24-27	It would not necessarily be "impossible" or too "difficult" to restore subsided elevation in all cases. The words "difficult" and "impossible" are probably overly-strong words to use, at least without some qualification. Perhaps it may be generally closer to impossible or more difficult in the eastern coal fields. Additionally it cannot be assumed that all changes in elevation caused by longwall mining would necessarily change the form and function of the stream.	Utah	Yes	The EIS does not accurately reflect changes in elevation of streams unless the subsidence involves a loss of water. The EIS will be rewritten to accurately reflect alt 5.
4.5.1.1	4-196	12-14	Using fills is vague and in the previous text it discusses subsidence impacts from room and pillar as well.	OSM / Calle	Yes	Please make the suggested language

			"Therefore it is predicted that surface mining practices that **require the placement of excess spoil in stream valleys** ~~using fill areas~~ and ~~longwall~~ **shallow underground** operations could be negatively impacted in those regions that contain high populations of intermittent and perennial streams."			change
4.5.1.1	4-196	17-18	The applicant would have to provide data such as detailed geochemical analysis (acid-base accounting data and/or leaching tests) of the refuse material would have to be able to demonstrate that this material placed on the mine permit would not result in discharges of elevated concentrations of sulfate, TDS, and specific conductance, and other toxic trace elements. Detailed biology would have to supplement the hydrologic and geologic data. Hydrologic monitoring plans would have to be significantly enhanced from present day practices to design and implement relevant monitoring programs in order to achieve protection of hydrologic resources.	TG OSM Hydro Team	No	The commenter offers no suggestion for change or revision to the document.
4.5.1.1	4-196	35-36	Corrective action thresholds are not used to identify trends.	DD OSM Hydro Team	Yes	Revise this sentence to state that "As under Alternative . . . would be established and would be monitored through quarterly sampling of water quality and quantity."
4.5.1.1	4-196	10-11	Suggestion for modification: "Subsidence caused by underground longwall mining, very shallow room-and-pillar mining, or room-and-pillar retreat mining could dewater a stream segment given specific geology, mining geometry, and other specific factors." The factors affecting subsidence should be restated here to elaborate on the phrase "mining could dewater..."	Utah	Yes (in part)	Please revise the first part of the sentence to state that "Subsidence caused by underground longwall mining, shallow room-and-pillar mining, or room-and-pillar retreat mining could . . ." The remainder of the comment provides more detail than is needed to make the intended point.

4.5.1.1	4-196	2	"Material damage **to the hydrologic balance outside the permit area** under this alternative..." Material damage language is not used consistently throughout document.	OSM / Calle	Yes	Duplicates other comments
4.5.1.1	4-196	2	The general concept of this definition of Material Damage is currently being utilized in Virginia. However, the definition should not be automatically applied to each stream segment that may receive a discharge, for example, if there is a dilution capacity, a mixing zone may be used below the NPDES point. Also, many streams are already impaired and not meeting designated use. In those cases, the TMDL report provides guidance to as to what are allowable discharges. The levels of the thresholds to quantify material damage should be left to the RAs to determine.	Virginia	No	As the EIS is written for the purposes of promulgating national regulation, methods applied by individual state programs which are determined to be as effective as the federal regulations will be considered by OSM.
4.5.1.1	4-196	7	Change "might not" to "can not". A permit can't be issued with the known potential for material damage outside the permit area.	PC OSM Hydro Team	Yes	
4.5.1.1	4-196	9 & 10	Fills would be allowed under Alternative 5... Material damage is a standard that only applies OUTSIDE of the permit boundary. Therefore, if a company was able to restore (form and function) in an intermittent or perennial stream inside the permit boundary, the permit would be issued unless the stream disturbance inside the permit would result in "material damage" outside the permit boundary.	BM OSM Hydro Team	Yes	Please make sure that the text in this document does not create the impression that because fill footprint may occur within the stream, the fill would be precluded by the material damage criteria.
4.5.1.1	4-196	29	What is the meaning of "surface area" as used in this sentence?	DD OSM Hydro Team	Yes	Please clarify
4.5.1.1	4-196	1 – 34	Chapter 4 frequently addresses the impacts to streams resulting from subsidence of underground mining, particularly longwall mining and room and pillar retreat mining. But, Chapter 1, titled Purpose and Need for the Federal Action, under the section headed Notice of Intent- Stream Protection Rule, states that "On April 30, 2010, OSMRE published notice of its intent to prepare an EIS to analyze the effects of potential revision to its rules and regulations under SMCRA to improve the protection of streams from the adverse impacts of <u>surface coal mining operations</u> (emphasis added). The federal regulation at 30 CFR 761.200(a) states as follows: "(a)	Indiana	No	Under NEPA, we have an obligation to evaluate reasonably forseeable impacts associated with each of the alternatives. Subsidence is in some cases a reasonably forseeable impact that may occur in association with

			Interpretation of 761.11- Areas where mining is prohibited or limited. Subsidence due to underground coal mining is not included in the definition of surface coal mining operations (emphasis added) under section 701(28) of the Act and Sec. 700.5 of this chapter and therefore is not prohibited in areas protected under section 522(e) of the Act. This interpretation was upheld by the United States Court of Appeals in its decision concerning Citizens Coal Council v. Gail A. Norton, June 3, 2003. Therefore, the intent of the draft EIS must preclude consideration of impacts from "subsidence due to underground coal mining". As a result, the draft must be modified to eliminate the consideration of impacts from "subsidence due to underground coal mining".			certain types of underground mining methods.
			The draft continues to appear focused on past experiences in areas other than the Illinois Basin. In this case, apparently other areas in which longwall methods are employed that are outside the Illinois Basin where stream flow loss has sometimes been a result. As a consequence of this focus and the selected language, it would also preclude planned subsidence under streams in the Illinois Basin where stream loss has not occurred. Because of the physical properties of thick, near surface unconsolidated materials, surface stream flow quantity has not occurred from longwall subsidence of Midwest streams. It would be very difficult to conduct longwall mining in the Illinois Basin without undermining and thus subsiding intermittent or perennial streams. Illinois Basin experience has shown that changes in stream bed elevations do not preclude the mitigation of stream flow and restoration of stream use after subsidence. These unique geologic and topographic conditions that better accommodate subsidence without stream loss in the Illinois Basin appear to be ignored. The magnitude of this prohibition is unknown as it will be directly correlated to the yet to be established definitions of ephemeral, intermittent, and perennial streams and establishment of success standards concerning form and function.			The comment is noted. OSM has recently met with the contractor to resolve continuing concerns about the discussions of material damage and subsidence.
			Line 31 indicates that longwall mining of extremely deep coal seams would avoid subsidence. There is no depth of coal great enough in the Illinois Basin, and possibly not in the nation, to			

			preclude surface movements if current longwall mining practices are conducted unless unrealistic and impractical panel widths are incorporated, none of which has been discussed in this draft. Table 2-1, page 2-20 describes all five alternatives. For Alternative 5, Activities in or Near Streams, it is stated "A prohibition of mining activities within 100 feet of intermittent and perennial streams, with an allowance for fills under certain circumstances". Under Mining through Streams, the table states "Allowance of mining through intermittent and perennial streams if stream form and function can be restored". Yet this section (4.5.1.1), implies that subsidence from longwall mining would have such a negative impact to the stream that it should not be allowed. To disallow subsidence induced elevation changes in a stream bed with no opportunity to present anticipated impacts and a stream subsidence mitigation plan is without basis. In the Illinois Basin, it would seem counter intuitive to allow streams to be surface mined if the success of stream restoration can be demonstrated, yet preclude subsidence operations that lower a stream even though the use, biology, and ecology may not be disrupted.			The contractor has previously been directed to correct Table 2-1 as per the comment. Again, OSM has recently met with the contractor to resolve continuing concerns about the discussions of material damage and subsidence.
4.5.1.1	4-196	37	S/B: "occurring. If monitoring showed that water quality or quantity had reached the corrective action threshold, . . ."	OSM / Sylvester-Bovard	Yes	Please make the suggested change
4.5.3			A primary purpose of the federal action is to improve protection of streams and related resources. However, there is very little discussion of the impacts of the various provisions of the preferred alternative on streams and related resources. This part of Chapter 4 includes only 11 pages headed "water resources," and most of the discussion under this heading effectively focuses only on impacts from decreases in coal production. And in that small section there is very little discussion of the impacts of the various permitting requirements and performance standards *per se*. There is virtually no discussion of what the most environmentally beneficial or otherwise most significant rule elements are, with regard to streams, and very little information or analysis as to their	OSM / Sylvester-Bovard	Yes	The EIS will need to be enhanced relative to a description of the environmental benefits of providing greater protection of streams as spelled out in alternative 5. While the potential economic impacts of alternative 5 and the other alternatives as well is needed, an expanded

			impacts on stream resources. Likewise, there is virtually no discussion of the basis for any conclusions as to impacts. And the analysis of impacts for the preferred alternative does not adequately articulate the underlying assumptions, if any, for its conclusions. As a result, this segment of the EIS has limited value—the level of information and analysis about stream resource impacts is simply not commensurate with the crucial importance of stream protection in this rulemaking. The EIS must be revised to analyze in substantially more detail the impacts (beneficial, and adverse if any) of the various principal rule elements on streams and related resources. Most of the 11 pages addressing water impacts focuses on impacts of projected decreases in coal production. However, I believe that discussion of any direct impacts on mining, as well as any related secondary impacts on the physical environment, belong in the evaluation of socioeconomic impacts. Further, I found no explanation of the basis for various conclusory projections of decreased production. I have not yet heard of an explanation. OSM will need verification of the projections, accompanied by explanations for the projections. The overall impression created by the analysis of the preferred alternative is that the EIS extrapolates in a superficial way a few presumptive impacts from mining cutbacks, on the physical environment. Other than this, the chapter more or less incidentally briefly mentions some of the rule changes and suggests in most cases that they <u>might</u> have some impacts on the environment. The lack of substantial data and analysis on rule provisions' impacts means that we do not have an adequate analysis of the environmental impacts of the preferred alternative. Effectively, by focusing so much on impacts from changes in coal production, and so little on the impact of the proposed rules that would improve stream protection, the draft chapter appears to have turned its NEPA priorities on their heads In summary, overall this first draft discussion of impacts on streams and related resources needs substantial improvement. It is not yet legally defensible, and it's technically inadequate. It			discussion of environmental impacts, both adverse and beneficial needs to be provided.

			would not survive scrutiny for adequacy by the Department's NEPA compliance group, much less by the Assistant Secretary's office. SOL certainly could not surname it. The contractors must provide a much-expanded analysis of the environmental impacts of the proposed rule, and evaluate their impacts on the physical environment, particularly stream-related resources. As discussed below, similar concerns are raised by the analysis of the impacts of the preferred alternative on other aspects of the physical environment.			
4.5.2.1	4-198	5-12	What is the basis for these statements? Why do you project these impacts?	OSM / Sylvester-Bovard	Yes	This basis for these shifts are explanation in 4.7. However, they needed to be further supported in the alternative 5 narrative.
4.5.2.1	4-198	5-9	State the case if you got these numbers from the methodology described in 4.7.	OSM / Michael	Yes	Duplicate comment
4.5.2.1	4-198	13-14	[WHAT DOES "topographic impacts" MEAN? WHAT DOES "will be impacted accordingly." MEAN? DID YOU INTEND TO SAY: ". . . and acreage of land mined in those regions is projected to to increase."? WHAT IS THE BASIS FOR THIS PROJECTION?	OSM / Sylvester-Bovard	Yes	Tie to 4.7. Additional explanation needs to be provided. Narrative seems to assume that the reader intuitively understands what the EIS writers are attempting to convey.
4.5.2.1	4-198	7-8	"that region" should be "those regions" if the intent of the sentence/point is that increased production is expected in the Northern Rocky Mountains AND Great Plains regions.	OSM / Self	No	N. Rocky Mts. and Great Plains is one region.
4.5.2.1	4-198	8	S/B: "about 15 percent in that region" [WHICH REGION?] to meet market demands because of decreased surface production . . ."	OSM / Sylvester-Bovard	Yes (in part)	If read carefully, it is clear that use of the term "that region" is referring to the N. Rocky Mt. and G. Plains Region. However the rest of the comment about "meet market demands

						. . ." should replace the reference to "account for losses".
4.5.1.2	4-197	8-16	DID YOU MEAN? : "To satisfy market demand for coal with relatively high BTU value, if production of such coal decreased in the Appalachian Basin and the Gulf Coast as projected upon implementation of this alternative, it is possible that surface mining in the Northern Rocky Mountains and Great Plains would produce more surface-mined coal. Surface mining operations in steep slope areas would be projected to produce less coal under Alternative 5, except in those instances where an applicant can feasibly backfill the highwall to approximate pre-mining slope, aspect, and elevation." [REMAINDER OF PARAGRAPH APPEARS TO BE REDUNDANT OF EARLIER DISCUSSION.]	OSM / Sylvester-Bovard	Yes	Clarity needs to be improved.
4.5.1.2	4-197	6-7;14-16	Lines 6-7 state requirements for fills are the same as Alternative 3, yet lines 14-16 state upper stream reaches will be eliminated, leaving the operator unable to restore form or function. This seems to preclude fills and contradict the first statement.	OSM / CW	Yes	Under OSM's proposed rules, form and function are not required to be restored when valley fills are proposed. Please revise the text of lines 13 – 16 to reflect this.
4.5.1.2	4-197	17-19	S/B: "Surface mining may also decrease to some extent in some areas [WHICH?] if costs of AOC restoration increase significantly because of surface configuration and fill requirements under Alternative 5. . . . Operators may find it uneconomical to surface mine in some regions if coal can be mined at less expense and at a higher profit in regions where compliance with AOC requirements is less costly. [THE LAST SENTENCE IN THE PARAGRAPH DOES NOT CLEARLY/PERSUASIVELY EXPLAIN WHERE, TO WHAT EXTENT, OR WHY THE NEW AOC REQUIREMENTS COULD RESULT IN LESS COAL PRODUCTION. IT SEEMS TO AMOUNT TO VAGUE SPECULATION.]	OSM / Sylvester-Bovard	Yes	More specific information regarding production displacement and the reasons for the displacement need to be included in the narrative
4.5.1.2	4-197	4-5	Emphasis is being placed on restoration of pre-mining topography, however the proposed deliberate restriction of surface mining (including remining). However, the preferred alternatives will result in AML highwalls, eroding outslopes, truncated streams, and other environmental problems not being	Virginia	Yes	The impact on the benefits of remining needs to be addressed.

			reclaimed due to the reduction in surface mining.			
4.5.1.2.	4-197	4	Strike "on" after emphasize	OSM / Sylvester-Bovard	Yes	
4.5.1.2	4-197	4	Should be "emphasize ~~on~~ fill minimization"	N. Mex.	No	Duplicative
4.5.1.2	4-197	8	Making up caloric (BTU) values lost in the Appalachian Basin and the Gulf Coast simply through increasing productivity in the Northern Rocky Mountains and Great Plains does not appear to consider the cost in fuel and dollars required to transport the coal to the eastern US power plants, or the shortage of high BTU, high quality Appalachian coal needed to blend with the western coal. This should be considered and addressed.	Virginia	No	
4.5.1.2.	4-197	9	Strike "surface mining in"	OSM / Sylvester-Bovard	Yes	
4.5.1.2.	4-197	10	Strike "using" and substitute "through use of"	OSM / Sylvester-Bovard	Yes	
4.5.1.2	4-197	19	Refers to Alternative 3, should it be alternative 5?	OSM / CW	Yes	
4.5.4	All	All	In general, this section is severely lacking content particularly as the preferred alternative. There is some excellently written and researched material in Alt 2-4 that overlap with Alt 5 and should be utilized in this section.	OSM / NG	Yes	Alternative 5 needs to be a stand alone.
4.5.4	All	All	Again, this section does not discuss impacts to listed species	OSM / CW	Yes	A discussion of listed species, particularly relating to alternative 5 needs to be provided.
4.5.4	4-209	2-4	It is stated that perennial and intermittent stream channels would benefit under Alternative 5 (compared to Alternative 1). In Texas, however, if streams were re-establishment to the premine form, they would be constructed with steep, cut-bank slopes, which are highly vulnerable to erosion. Under the current scenario, streams are re-established with gentle, stable side slopes for overbank flow with low-flow sinuous pilot channels, resulting in more benefit to downstream receiving channels. It is too general to indicate that Alternative 5 is 'hands down" more beneficial with regard to channel form.	Texas	Yes	Recognition that upon the completion of reclamation some streams form and function maybe enhanced, particularly compared to existing degraded streams, needs to be made,
4.5.4	4-209	15	Streams which are mined through in surface mining operations are restored or re-establish, rather than buried as indicated in this sentence.	Texas	Yes	Restoration of mined through streams needs to be included

4.5.2.2	4-198-9	25-3	S/B: "In that case, a permit applicant that might have obtained an AOC variance under existing regulations would, if it could not obtain an AOC variance under Alternative 5, have to restore AOC, which would typically result in environmental benefits such as: [EXPLAIN].	OSM / Sylvester-Bovard	Yes	Please revise as suggested
4.5.1.3	4-197-8	36-38	Table 4.5.1-1 is not accompanied by any explanation of the basis or cause for the impacts. Need some explanation and support for these figures. Otherwise, they appear to be conclusory and speculative, and therefore not defensible.	OSM / Sylvester-Bovard	Yes	Further support needs to be provided, included references from the RIA which might support the table.
4.5.2.2	4-198	16-25	Evaluation of this alternative is not possible due to the inadequate explanation in Chapter 2. Alternative 5 contains no such discussion.	OSM / Lane	No	
4.5.2.2	4-198	16-21	Please refrain from referencing decisions from other Alternatives, this allows for misinterpretation. At the very least, a brief description of related actions should be included.	Virginia	Yes	Alternative 5 needs to be written so as not needing to rely upon the other alternative for understanding.
4.5.1.3	4-198	1	The values for the Gulf Coast region are incorrect. There is some underground production in AR and the statement on this page at lines 9 and 10 indicate that underground production in the Gulf Coast region will be the same under Alternative 5. In addition, the surface mining and total production listed do not equate to a 26.3% reduction in production assuming a baseline of 45.7 million tons per year for the Gulf Coast region.	Texas	Yes	Provide a more thorough explanation in response to the expressed concerns. Change chapter 3 to indicated that AR is also in the "Other Western Interior" region as well as the Gulf Coast, as AR coal production areas are in the OWI region.
4.5.1.3	4-198	Table 4.5.1-1	The EIS production impacts for the Appalachian basin appear to be overly optimistic. To allow confidence, there should be a better explanation as to how these estimates were determined.	Virginia	Yes	Duplicate comment
4.5.1.3	4-197	25-31	The EIS reads as if native species are not currently being used in reclamation. To the contrary, native hardwoods are the predominant species used for reforestation. Native grasses, due to their difficulty in establishing cover, are not used to any large degree.	Virginia	No	

4.5.1.3	4-197	30-32	The statement that "additional baseline data...would provide environmental protection by identifying high value resources..." is misleading. Current baseline monitoring is required to be of sufficient detail to identify high value resources under current regulations.	Texas	No	
4.5.1.3	4-197	29	What does it mean that "topsoil material will be composed "? The permittee is required to replace the premine soils or a substitute that is the best available and equal or more suitable than the existing topsoil.	OSM / BJ	Yes	Please clarify what is meant by "will be composed." Note that if the word "composed" was intended to be "composted" there is no requirement under existing SMCRA regs or the proposed rule to compost.
4.5.1.3	4-197	29	This sentence refers to "composed" topsoil. We suspect this is a typographical error and instead was intended to be "composted". If that is the case, we question the necessity of composting topsoil material in all regions and are curious what scientific literature indicates this is an appropriate practice for thick soils of the Illinois Basin. The topsoil of the Illinois Basin is typically high in organic matter. Normally this is the case for prime and non-prime soils. Forest type soils are often high in organic content as well in the Illinois Basin. There is no justification for composting to be necessary and the opinions of experts in the field of soil science and agronomy should be employed before making the leap to require the composting of topsoil materials in all regions.	Indiana	No	Duplicative of above comment
4.5.1.3	4-197	30	This line states wildlife habitat would be enhanced inside and outside the permit area. This section should clearly state if the habitat enhancement outside the permit area is the result of the activity or activities within the permit area or if something else is considered. Jurisdiction for mitigation and enhancement beneath SMCRA stops at the permit line and therefore any intentions of requiring off-permitted site mitigation as a part of the SMCRA permit, if that is the intent of this statement, would not be possible.	Indiana	Yes	Suggest in line 30 that you simply strike the words "inside and outside the permit area."
4.5.5	4-211	5-6	What do we mean by "there are no changes to SMCRA"? Changes to SMCRA are not at issue.	OSM / Sylvester-Bovard	Yes	Delete "to SMCRA" from line 5.

4.5.5	4-210	32-34	DELETE FIRST SENTENCE. ON LINE 34, AFTER "requirements", it should state "for permitting and performance standards than would Alternative 1; but not. . . ." ADD COMPARISONS TO 3 & 4 ALTERNATIVES.	OSM / Sylvester-Bovard	Yes	Please revise as suggested
4.5.4.1	4-209	11-17	Again this summary does not do an adequate job of highlighting the differences Alt 5 will have on the aquatic environment in comparison to the no action alternative. Obviously, regardless of which alternative is selected, coal mining would continue to have a negative impact (at some sites) on the environment but the summaries for each alternative (Water, Land, and Other Elements) need to highlight the differences in each alternative.	OSM / NG	Yes	Enhancement of the summaries would greatly assist understand of the document, particularly in the case of alternative 5.
4.5.4.1	4-209	15-17	HOW WOULD IMPACTS OF ALTERNATIVE 5 COMPARE TO THOSE OF NO-ACTION ALTERNATIVE, AND TO IMPACTS OF OTHER ALTERNATIVES?	OSM / Sylvester-Bovard	Yes	Duplicative comment
4.5.4.1	4-208	12-15	IN THE NEXT-TO-LAST SENTENCE, DO YOU MEAN MORE ADVERSE IMPACTS THAN UNDER THE NO ACTION ALTERNATIVE? IN THE LAST SENTENCE, DO YOU MEAN THAT SUCH MEASURES WOULD BE REQUIRED UNDER ALTERNATIVE 5? WHAT WOULD THE IMPACTS BE?	OSM / Sylvester-Bovard	Yes	Enhance the explanation.
4.5.4.1	4-208	16-17	WOULD STREAM RELOCATION UNDER ALTERNATIVE 5 CAUSE MORE AQUATIC HABITAT CHANGE AND FRAGMENTATION, OR LESS, THAN THE NO-ACTION ALTERNATIVE WOULD ALLOW?	OSM / Sylvester-Bovard	Yes	Provide a comparison to the no action alternative.
4.5.4.1	4-207	5-6	The assumptions bulleted in this section (all sections for that matter) do not do a sufficient job at discerning the specific differences of each alternative from the no action alternative and fail to establish a clear outline of the impacts for the reader. Simply stating that, "Mining and mining activities could occur in all stream types" and, "Excess spoils could be placed in all stream types" is inadequate. Adding highlights of the material on page 4-208 lines 9-13 and Page 4-209 lines 1-10 would help to alleviate this issue.	OSM / NG	Yes	Duplicative comment
4.5.4.1	4-207	24-5	WHY WOULD THE MAJORITY OF NEW ADVERSE IMPACTS TO AQUATIC ECOSYSTEMS OCCUR IN THE APPALACHIAN BASIN, IF THERE WOULD BE A DECREASE IN SURFACE MINING THERE? WHAT ABOUT UNDERGROUND MINING-RELATED IMPACTS IN STREAMS, IN ILLINOIS, ETC.? AND WOULD IT BE CORRECT AND MORE BALANCED TO	OSM / Sylvester-Bovard	Yes	There is a need for some further clarity in the point you are trying to make with your statement about new adverse impacts occurring in

			SAY THAT THERE WOULD BE SIGNIFICANTLY FEWER NEW ADVERSE IMPACTS THAN UNDER ALTERNATIVE 1? IF SO, PLEASE ADD A DISCUSSION OF THIS, QUANTIFIED IF POSSIBLE.			Appalachia especially when you consider that Appalachia is where the greatest decrease in mining would occur.
4.5.5	211	3	Table 4.5.5-1 needs note that column 4 "Percent Change from Baseline (No Action Alternative) is calculated from the Affected Streams and not the Affected Area	OSM / DH	Yes	
4.5.6	General	General	An important socioeconomic element in this chapter that is too vague for analysis is whether jobs and revenue associated with coal-fired power plants (which are directly tied to the coal industry, and which cannot be replaced immediately) are included in this analysis. The socioeconomic impact of potential changes to the cost of electricity is also a significant factor apparently not currently discussed in this EIS. This should have been analyzed. See the following source for an idea about the impact of coal-generated electricity and coal mining in general on Utah's economy: http://www.unews.utah.edu/p/?r=070710-1	Utah	No	OSM has determined that analysis of impacts to the electricity production and employment in that industry is beyond the scope of this document.
4.5.3.1.1.1	4-199-200	25-38;1-4	Once again, this paragraph assumes that the baseline and compliance monitoring sites are in relevant geographic locations, relative to the mining permit. Quarterly sampling is a regulatory sampling frequency and is not frequent enough to discern a pattern of hydrologic impacts; monthly sampling is needed for a truly scientific assessment. Under Alternative 5, relevant monitoring sites will be required to achieve the goals outlined in this paragraph. "Seepage run" baseflow monitoring measurements will be needed for baseline and compliance monitoring in order to discern material damage. Commonly, dewatering of streams is interpreted by coal operators and consultants as a result of inadequate precipitation. A rain gauge must be mandated and located in the sub-watershed containing each mining permit. This is an absolute necessity to document precipitation, and also complements the integrated enhanced monitoring method and monthly sampling frequency.	TG OSM Hydro Team	No	The commenter is seemingly advocating a change in the proposed rule language. Such comments should be made in review of the proposed rule.

4.5.6	4-213	8-18	A statement acknowledging the role of royalties earned from the state and federal coal production on the federal, state, and local government revenues in both the Rocky Mountain / Great Plains and the Colorado Plateau coal producing areas in Western states should be added.	Utah	No	Discussion of royalties is presented in Sec. 4.5.6.14, pg. 218-219
4.5.6	4-213	8-18	Are these figures conservative figures, worst case scenarios, or simply guesses?	Virginia	No	It is not clear which figures the commenter is referring to. The comment does not appear to be constructive.
4.5.6	4-213	8-9	Remove "comparatively".	Utah	Yes	
4.5.6	4-213	16	Although it's estimated that a 1.6% overall increase of production will occur, a 1.7% overall increase is cited throughout Chapter 4.	Texas	Yes	Please verify that this slight discrepancy discrepancy exists and if so, please correct
4.5.4.2	4-210	3-9	THIS PARAGRAPH SUMMARIZES CERTAIN ADVERSE IMPACTS OF ALTERNATIVE 5. WHERE IS THE COMPARABLE SUMMARY OF BENEFICIAL IMPACTS OF ALTERNATIVE 5? WHERE IS THE COMPARISON TO IMPACTS ON SUCH RESOURCES, FROM OTHER ALTERNATIVES? CONCERNING THE MENTION OF EXPOSURE OF WILDLIFE TO TOXIC CHEMICALS—IF THIS PARAGRAPH SUMMARIZES DISCUSSION OF SUCH IMPACTS, THEN WHERE ARE THESE IMPACTS DISCUSSED ABOVE, IN MORE DETAIL?	OSM / Sylvester-Bovard	Yes	
4.5.4.2	4-209	27-32	S/B: "Under Alternative 5, mine sites would be required to be reclaimed to AOC unless a variance to AOC was granted. Reestablishing AOC requires the use of heavy equipment . . . . [CONCERNING THE LAST SENTENCE, ON WHAT PERCENT OF MINES OR AREA, DO WE PROJECT THAT NO ADVERSE IMPACTS FROM HEAVY EQUIPMENT WOULD OCCUR? OR WHAT ASSUMPTIONS DO WE MAKE ABOUT THE EXTENT OF SUCH MINES, BASED ON PAST EXPERIENCE OR OTHER FACTORS? HOW WOULD IMPACTS FROM HEAVY EQUIPMENT UNDER ALTERNATIVE 5 DIFFER FROM THOSE UNDER THE NO ACTION ALTERNATIVE?	OSM / Sylvester-Bovard	Yes	Please revise the first sentence (line 27) as suggested. The last two sentences in this paragraph are unclear as to what the point is that is trying to be made and seem to be somewhat discombobulated from the first two sentences.

						Please revise this portion of the paragraph.
4.5.4.2	4-209	33-37	THIS PARAGRAPH IS VAGUE—NEED QUANTIFICATION OF IMPACTS, OR QUALITATIVE EVALUATION.	OSM / Sylvester-Bovard	No	The paragraph seems to be relatively clear in describing the beneficial impacts of reforestation of mine site disturbances.
4.5.3.1.1.1	4-200	5-24	The first paragraph is unacceptably vague. Rewrite to clearly state what we project is likely to happen. Use of terms like "may" and "conceivable" leave the reader hanging. Reference to a "conceivable" increase or reduction in CWA violations is not helpful. Do you assume that an increase in the rate of CWA violations is likely? Even with the proposed requirements related to corrective action thresholds? On what basis? In any case, why do you discuss WQ in these paragraphs instead of in 4.5.3.1.2? In the discussions of impacts on water quantity and quality, wherever they occur, you need a far more substantial discussion of the impacts of the proposed requlatory provisions, and not just of increased or decreased coal production.	OSM / Sylvester-Bovard	Yes Yes	OSM will consider the comment and discuss with the contractor accordingly
4.5.3.1.1.1	4-200	1-2	Material damage threshold criteria would be based on designated uses, monitoring data would trigger corrective action implementation.	OSM / Calle	Yes	Please revise accordingly
4.5.3.1.1.1	4-200	1	THIS LINE WOULD START WITH THE FIRST FULL SENTENCE: "Lastly, water quantity and quality would be . . ."	OSM / Sylvester-Bovard	Yes	Revise sentence accordingly
4.5.3.1.1.1	4-200	4	S/B: "in order to protect water quantity and quality and biological conditions.	OSM / Sylvester-Bovard	Yes	Revise sentence accordingly
4.5.3.1.1.1	4-200	14	What is "...from the baseline" referring to?	DD OSM Hydro Team	Yes	Please clarify what is meant by this term.
4.5.3.1.1.1	4-199	Entire subsec tion	IT'S NOT CLEAR WHAT VALUE IS ADDED BY REFERENCES TO "availability" – IT APPEARS THAT ALL OF THESE REFERENCES SHOULD BE REVISED TO REFER TO "water quantity"--???. ALL PROJECTIONS SHOULD BE EXPLAINED—WHAT IS	OSM / Sylvester-Bovard	Yes	As this is supposed to be a discussion of Alt. 5 impacts, it seems inappropriate to discuss comparative impacts of all

			THE BASIS FOR THESE PROJECTIONS? WHAT ASSUMPTIONS DID YOU MAKE, AND HOW DID YOU CALCULATE? NEED TO ADD DISCUSSION OF THE RELATIVE OR COMPARATIVE IMPACTS ON STREAMS AND RELATED RESOURCES FROM THE DIFFERENT ACTION ALTERNATIVES. IT'S CONFUSING TO USE A VARIETY OF TERMS WHEN REFERING TO WHAT APPEARS TO BE JUST WATER QUANTITY AND/OR QUALITY. I SUGGEST YOU JUST USE "QUANTITY" AND "QUALITY," AND DELETE TERMS LIKE "AVAILABILITY" AND "STREAM FLOW", UNLESS THEY REFER TO SOME DISTINCTIVELY DIFFERENT AND IMPORTANT FACTOR. REFERENCES TO THINGS THAT "MAY" HAPPEN SHOULD BE REVISED TO STATE CLEARLY WHETHER AND TO WHAT EXTENT WE PROJECT THAT THESE THINGS ARE LIKELY TO HAPPEN. —HOW LIKELY ARE THEY, AND WHY, OR IN WHAT CIRCUMSTANCES?		Yes No Yes Yes	alternatives at this location in the document OSM will consider the comment and discuss with the contractor accordingly
4.5.3.1.1.1	4-199	25-34	THERE APPEAR TO BE A LOT OF MISCHARACTERIZATIONS OF THE REQUIREMENTS APPLICABLE TO ACTIVITIES IN AND NEAR STREAMS. PLEASE CORRECT THIS PARAGRAPH TO ACCURATELY REFLECT 780.28 AND ANY OTHER RELEVANT PROVISIONS. FOR EXAMPLE: S/B: "Various regulatory elements within Alternative 5 would limit coal mining impacts on water quantity. Under this alternative, collection of data on baseline stream flow in potentially affected streams would be required. This requirement would make it possible to more effectively determine whether a mining operation has significantly adversely affected the quantity, quality, or biological condition of waters. " PLEASE CORRECT THE TWO SENTENCES STARTING	OSM / Sylvester-Bovard	Yes Yes	

			WITH: "The definition of material . . ." TO ACCURATELY DESCRIBE THE DEFINITION.		Yes	
4.5.3.1.1.1	4-199	19-21	S/B: ". . . Likewise, if less coal is produced, water that would have been used for coal mining production would be available for other beneficial uses.	OSM / Sylvester-Bovard	Yes	
4.5.3.1.1.1	4-199	32-34	S/B: " . . . availability. New permitting requirements and performance standards would apply to activities in or near streams. Those requirements would allow placement of excess spoil fills in streams only if they did not adversely affect preexisting or designated uses of streams." [DESCRIBE THE CORRECT STANDARD FOR FILLS IN STREAMS]	OSM / Sylvester-Bovard	Yes	
4.5.3.1.1.1	4-199	33-34	"...only allowing for the placement of excess spoils..." is not accurate.	DD OSM Hydro Team		
4.5.3.1.1.1	4-199	7	IT APPEARS THAT THIS HEADING SHOULD BE " Impacts on Water Quality"	OSM / Sylvester-Bovard	Yes	Please review the various headings within Sec. 4.5.3 to make sure they are consistent.
4.5.3.1.1.1	4-199	37-8	S/B: ". . . and ecological function was demonstrated. Restoration of ecological function would necessarily involve restoration of water quantity in substantial part." [IS THIS CORRECT?]	OSM / Sylvester-Bovard	Yes	In line 36, change the word "ephemeral" to "perennial." As for the commenter's concern, please incorporate the fact that ecological function must by necessity include maintaining water quality and flow.
4.5.3.1.1.1	4-199	35	S/B: ". . . impacting base stream flow, which would protect downstream water quantity."	OSM / Sylvester-Bovard	Yes	
4.5.3.1.1.1	4-199	36 – 37	This section states "mining through intermittent and ephemeral streams would be prohibited unless restoration of stream form and ecological function could be demonstrated". It is questioned if the word "ephemeral" was intended to be "perennial" and if not, how prohibitions concerning perennial streams would be applied in this section as perennial streams are not mentioned. Moreover, it is difficult to provide substantive comments in regard to an evaluation of re-establishment of form and function without additional	Indiana	Yes	Please change the word "ephemeral" to "perennial."

			information as to how that evaluation would actually take place.			
4.5.3.1.1.1	199	25-27	The narrative states that under this alternative, baseline stream flow data are required to be collected from potentially affected streams. This data is already required. Also, note that due to variations in precipitation, the determination of minor effects on stream flow would be undetectable. Clarify the length of time required for baseline data collection.	Virginia	Yes	In line 26 between the words" collected" and "from", please insert the words "monthly for 12 consecutive months."
4.5.5.2	4-212	14-17	The expansion of documentation requirements would provide additional documentation and review for the assessment of visual impacts on historic structures and landscapes in the Appalachian , Gulf Coast, and Illinois Regions, where visual impact assessment historically has not been well documented.	VA SHPO	No	The commenter seems to be making an observation that does not require any change to the document
4.5.5.2	4-212	5-8	This statement is <u>not</u> true in Utah. Currently, the majority of reclaimed lands are designated as wildlife habitat, grazing, or industrial uses.	Utah	No	While "recreation" is an identified land use under SMCRA, the discussion presented in this portion of the document seems to be directed toward the recreational use of reclaimed lands that may occur independent of the SMCRA designated use. For example, forestry or wildlife habitat land uses are often used for dispersed recreational opportunities such as hunting, hiking, etc. The point being made is that with Alt. 5 requirements for use, there is agreater opportunity for more intense recreational opportunities of reclaimed land.

4.5.5.2	4-212	27-28	Preventing PMLU's such as cropland or industrial which "may be against the wishes of the landowner" (pg. 4-140 line 10) would have more adverse impacts than are analyzed. If the landowner chose to develop the land as industrial or for cropland after the bond release was achieved, nothing in SMCRA would prevent the landowner from doing so. This would then be a waste of substantial time and money reforesting an area that was going to then be re-disturbed.	Utah	No	To attempt to include any discussion and impact analysis of what a landowner may or may not do after SMCRA bond release is to speculative for inclusion in this document
4.5.5.2	4-212	11-12	Stricter requirements under Alternative 5 on the minimization of excess fill placement in all streams and the use of land forming would likely reduce the potential for visual effects on historic properties in all regions.	VA SHPO	No	While what the commenter is saying is true, the statement as written is sufficiently broad to include reducing potential visual impacts on any historic properties or any other areas where visual impacts would be perceived to be adverse (e.g. parks, residential areas, etc.)
4.5.5.2	4-212	4	Change "to be proved achievable and feasible" to "financial assurance". It is currently required that a postmining land uses be proven to be achievable and feasible. 30 U.S.C. 1258(a)(4) states, "a detailed description of how the proposed postmining land use is to be achieved and necessary support activities which may be needed to achieve the proposed land use." However, financial assurances are not currently required. These "financial assurances were mentioned in Chapter 2, page 2-28, lines 16 and 17.	Utah	Yes (in part)	The comment calls attention to the fact that the statement made in the document needs to clarify the fact that Alt. 5 removes the requirement that the **Regulatory Authority make a determination that the PMLU is achievable and feasible (emphasis added).** Under current SMCRA regs, the permit applicant still has a continuing requirement to show how the PMLU is to be

						achieved.
4.5.5.2	4-212	4	Change the word "forested" to "premining"	OSM / JC	Yes	
4.5.5.2	4-212	8	Insert "uses such as" between the words "for" and "athletic."	OSM / JC	Yes	
4.5.5.2	4-212	14 – 18	This section discusses documentation for AOC exceptions and includes a statement that it would be most useful for three regions, one of which is the Illinois Basin. Indiana and Illinois do not approve AOC variances. As a result, the statement about AOC exceptions and documentation being pertinent to the Illinois Basin is perplexing. We suggest reference to the Illinois Basin be removed from this section.	Indiana	No	Digital terrain modeling is required for all permits of a certain size or greater, regardless of whether AOC exceptions are proposed or not. As such, the discussion in the document remains valid in that it indicates that such modeling would be useful in those Regions where visual assessment is typically not well documented (i.e. where there is a preponderance of mining on privately owned property)..
4.5.4.3	4-210	14	Topsoil has to be salvaged and replaced on the reclaimed area unless you have an approved soil substitute. Under soils substitution the permittee must demonstrate that the substitute material is equal or more suitable than the existing topsoil. So the soil resource that is placed back on the mined surface is the best available soil material that is best able to support the intended post mining land use. So if the pre-mine soils are not the best available then it would not be reused on site. Replacing an inferior soil material would not be the best practice under this alternative.	OSM / BJ	Yes	Revise the first bullet to say, "Topsoil or an approved substitute material must be reused on-site."
4.5.4.3	4-210	16	Native grasses should not be used for revegetation efforts in the Appalachian basin for hayland/pasture post-mining land use. Non-invasive introduced species of grasses and legumes have proven to be more successful. Native hardwoods should	Virginia	No	The comment is germane to the proposed rule language and should

			be planted for reforestation.			be made when the proposed rule language is made available for comment.
4.5.4.3	4-210	22	This section indicates organic material from the site will be required to be salvaged. There is no discussion in this section explaining this sentence or what that organic material will be required to be used for. As a result, it is not possible to provide comment on potential impacts to mining operations or regulatory agencies.	Indiana	Yes	Any additional information that may be available that would help provide a description of this requirement (e.g. from preamble discussion) should be used to better explain how organic material is to be salvaged and used..
4.5.3.1.2.1	4-203	9-23	No discussion of provisions, just coal production.	OSM / Calle	No	Not sure what provisions the commenter was referring to that needed to be discussed
4.5.3.2.1.1	4-203	31-37	PLEASE REVIEW THIS PARAGRAPH AND CONFIRM WHICH SIGNIFICANT CHANGES IN REQUIREMENTS FOR EXCESS SPOIL FILLS ARE NEW TO THE PROPOSED RULE, AND WHICH WERE ALREADY IN THE 2008 RULE. IF THIS PARAGRAPH IS CORRECT, IT SHOULD READ: "Because Alternative 5 provides for AOC configurations that exceed original elevations under certain circumstances, in some cases there may be less need for valley fills. [CAN YOU PROJECT THE AREAS OR CIRCUMSTANCES IN WHICH THIS IS MOST LIKELY, OR CAN YOU REASONABLY PROJECT SOME QUANTIFICATION FOR THE CHANGE? OR CAN YOU DESCRIBE THE CHANGE IN TERMS OF QUALITY(S)?] Additionally, because Alternative 5 would allow regulatory authorities to set fill optimization policies based on site-specific factors such as topography, regulatory authorities may provide for smaller areas of fill or fewer fills, by increasing the volume of constructed fills. Alternative 5 would also require operators to minimize stream lengths buried, and to reconstruct ephemeral	OSM / Sylvester-Bovard	Yes	Please accept the proposed re-write.

			streams on fills where possible, consistent with stability and water quality considerations. Alternative 5 requires the operator to restore stream form and function, including water quality and quality as well as biological conditions."			
4.5.3.1.2.1	4-203	21-23	EFFECTIVELY, THE LAST SENTENCE IN THIS PARAGRAPH IMPLIES OR SAYS (?) THAT ANY SIGNIFICANT CHANGES IN (ADVERSE?) IMPACTS ON SURFACE WATER QUALITY WOULD BE ATTRIBUTABLE TO CHANGES IN COAL PRODUCTION. IF SO, NO CHANGES IN WQ IMPACTS WOULD BE ATTRIBUTABLE TO THE WATER ELEMENTS PER SE. THAT'S EXTREMELY UNLIKELY. IF IT'S TRUE, WE SHOULD CERTAINLY ALERT AGENCY DECISIONMAKERS TO THIS CONCLUSION—BECAUSE IT EFFECTIVELY MEANS THAT THE EIS FOUND NO SIGNFICANT WATER QUALITY BENEFITS ATTRIBUTABLE TO THE PROPOSED CHANGES IN WATER ELEMENTS. THIS CERTAINLY NEEDS TO BE REWORKED.	OSM / Sylvester-Bovard	Yes	Please disregard the part of the comment referring to alerting agency decisionmakers. However, there does seem to be a disconnect within the body of this paragraph (lines 9-23) that needs to be corrected. The paragraph begins by identifying all the water elements that apply to this discussion and then attributes no impact in the remaining text of the document to these elements. Please revise to describe the impacts of the elements identified in lines 10-12 on surface water quality.
4.5.3.1.2.1	4-203	14	The reference to a discussion associated with Alternative 1 and Table 4.2.3-5, which would be located under the discussion of Alternative 2, are incongruous.	Texas	Yes	Please check this
4.5.3.1.1.2	4-201	3-11	S/B: "except Alternative 2. In light of corrective action thresholds for both water quantity and quality levels, in many cases we anticipate that mining and reclamation activities will need to use improved mining practices in order to adequately minimize adverse hydrologic impacts. Further, the requirements applicable to construction of excess spoil fills in streams will significantly improve stream protection, but allow	OSM / Sylvester-Bovard	Yes	Please make suggested change

			mining to proceed. This is in strong contrast to Alternative 2, which would simply prohibit fills in steams, . . ."			
4.5.3.1.1.2	4-201	24-27	S/B: "Thus, this alternative is projected to result in less surface mining in the Appalachian basin and therefore fewer stream miles disturbed by mining.	OSM / Sylvester-Bovard	Yes	
4.5.3.1.1.2	4-201	17-19	Other west? Northwest?	OSM / Calle	Yes	Please include all projected regional surface mining decreases.
4.5.3.1.1.2	4-201	20-22	Spell out "MMT" the first time it's used in the discussion of this alternative	OSM / Sylvester-Bovard	Yes	
4.5.3.1.1.2	4-201	12-13	Increase mining in Northern Rocky Mountains may increase hydro impacts?? Mining in Northern Rocky has been increasing. Is there any evidence of hydro impacts?	OSM / Calle	No	
4.5.3.1.1.2	4-201	2	Not sure how the conclusion 'encourage watershed mining and reclamation procedures" follows from the previous discussion about stream definition and material damage??	OSM / Calle	No	
4.5.3.1.1.2	4-201	2	WHAT DOES "enhance" MEAN IN THIS CONTEXT? PLEASE CLARIFY.	OSM / Sylvester-Bovard	Yes	
4.5.3.1.1.2	4-201	5	Alternative mining methods??	OSM / Calle	No	Duplicative. Addressed in response to comment identified as page 4-201 / lines 3-11 above
4.5.3.1.1.2	4-201	7	Down gradient???? Restoration of form and function is required wherever an intermittent or perennial stream is mined through.	OSM / Calle	No	Duplicative. Addressed in response to comment identified as page 4-201 / lines 3-11 above
4.5.3.1.1.2	4-200	33-39	S/B: ". . . in projected surface mining, Alternative 5 is projected to have less adverse impact on surface hydrology than would all other alternatives except Alternative 2. We project less adverse impact on surface hydrology because of the Water, Land, and Other Elements of Alternative 5. Specifically, the Water Elements take an integrative approach to the definition of a stream that considers three key stream factors: hydrology, biologic, and physical characteristics. [IS THIS CORRECT?] This approach is projected to aid in more accurately identifying streams that are perennial, intermittent, and ephemeral. [I DO	OSM / Sylvester-Bovard	Yes	

			NOT UNDERSTAND THE NEXT SENTENCE, WHICH STARTS "Linkage of stream definition . . . ." PLEASE CLARIFY, IN ONE OR MORE SIMPLE SENTENCES. WHAT DO WE PROJECT IS LIKELY TO HAPPEN?]			
4.5.3.1.1.2	4-200	26-31	This a somewhat confusing paragraph, perhaps a table would be useful here.	TG OSM Hydro Team	No	Duplicative of comment / response below.
4.5.3.1.1.2	4-200	26-31	What does this paragraph have to do with the impacts of the rule provisions on surface water hydrology? That should be the primary focus of this provision. This paragraph appears to be an example of the type of data that it would be more appropriate to address in a summary of economic impacts on the mining industry—assuming you can verify these impacts as defensible projections.	OSM / Sylvester-Bovard	No	This in the introduction to the Surface water section. A fundamental assumption is that surface water impacts are proportional to production increases or decreases. Therefore, they are summarizing the impacts of the alternative(s) on production and then lead into a discussion of the resultant impacts on surface water in lines 32 through 39.
4.5.3.1.1.2	4-200	21-22	Material damage threshold criteria would be based on designated uses, monitoring data would trigger corrective action implementation.	OSM / Calle	Yes	The thresholds are not based on monitoring data. The thresholds would be based on an evaluation of the concentrations or situations that would result in material damage. Monitoring data simply monitors for material damage or trends toward material damage.

4.5.3.1.1.2	4-200	38-39	What is the material damage stream definition linkage?	OSM / Calle	No	I think the contractor means that the proposed stream definition in alternative 5 is based on water flow and biology, which is constant with the material damage standard. Therefore, the two are now linked, unlike in Alternative 1.
4.5.3.1.1.2	4-200	17	"Regulatory elements associated with this alternative may be protective of water quality." This sentence lacks any substantial conclusion.	OSM / Calle	Yes	That statement doesn't make sense. Revise. I hope the alternative is protective of water quality, otherwise we've got issues since this is called the "Stream Protection Rule."
4.5.3.1.1.2	4-200	17	No water quantity during baseline??	OSM / Calle	No	Duplicate comment related to 2 comments above.
4.5.3.1.1.2	4-200	24	Drinking water quality is the only significant water resource? What about agriculture?	OSM / Calle	No	This section is called Water Resources Planning and the metric used to evaluate impacts for this section is impacts to Drinking Water .
4.5.3.1.1.2	4-200	25	The proposed action clearly includes a demonstration of restoration of form and function before another stream can be mined through. This provision has not been discussed with respect to impacts to production or environment.	OSM / Calle	Yes	The requirement for sequencing must be presented at an appropriate location in the discussion of impacts in Alternative 5
4.5.3.1.1.2	201	5	BTCA may be a better term than BMP	N. Mex.	No	In the context as used in this sentence, either

						of the terms would seemingly work equally well in making the point, however, BMP's will be left in the text.
4.5.8	4-231	11-19	SMCRA regulations require a CHIA that addresses all mining activity in the Cumulative Impact Area (CIA).This assessment addresses all "Anticipated Mining" in the CIA, whereas a NEPA analysis assesses aspects all water quality discharges, sewage, industrial discharges, etc. The CHIA examines the addition of the proposed operation to all Anticipated Mining in the CIA. It appears from this paragraph that the CEQ regulations "actions" and the CHIA review are somewhat incongruent with respect to their objectives. I find it peculiar that the CHIA is not referred to in this section. SMCRA regulations and permits require a CHIA to be completed before permit issuance, but yet it is not even mentioned in this section.	TG OSM Hydro Team	No	The commenter makes no specific recommendation or suggestion for a change in this comment
4.5.5.3	4-213	3	Strike the language "a forested state" and replace with "their premining use."	OSM / JC	Yes	
4.5.5.3	4-213	3 – 5	This section indicates a requirement for areas forested at the time of permit application be reestablished. It is not clear if this is intended to be the exact same areas. Flexibility must be built into any requirements to provide for reforestation to occur but not mandated to the same locales within the permit area. Operations could dictate other areas more suited for reforestation within the permit area. Landowner desires need to be considered as some landowners may want more forest while others may prefer a different land use. As a result, the ability to balance these needs should be employed.	Indiana	No	The States have the flexibility to propose State regs that are equally or no less effective than the Federal regs. That does provide some flexibility.
4.5.5.3	4-212	27-35	A mandated post-mining land use is contrary to the spirit of SMCRA. Even though Virginia encourages reforestation, we recognize landowner's rights to implement land uses that are approved and properly implemented. If OSM mandates a post-mining land use, what would prevent an owner from changing that the day after bond release?	Virginia	No	After bond release, there is no encumberance on land use under the SMCRA program.
4.5.3.3.1.1	4-205	all	Discussion in this section covers a plethora of issues that are again difficult to provide substantive comment upon given the manner in which they are put forth. There are many ideas and new initiatives listed that without specific information as to how	Indiana	No	Comment was addressed by the proposed re-write of the paragraph in

			they would be employed, and what the success standards are, make it impossible to have a grasp of its overall impact to Illinois Basin mining operations or regulatory agencies. Parts of this section are unclear such as the statements that the monitoring period lasts only through the bonding period when compared to the statement that form and function will have to be established within the bonding period. Without knowledge of success standards and methodologies required to be employed to meet these standards it is difficult, if not impossible, to read between the lines to gain an understanding if this means the time necessary to meet these success standards will significantly increase periods bond is held thus driving up costs and resource needs for regulatory agencies.			question as per page 205, lines 28-39 below
4.5.3.2.2.1	4-205	3-17	THIS PARAGRAPH APPEARS TO BE OF LIMITED RELEVANCE OR UTILITY. IT IGNORES ALL FACTORS EXCEPT COAL PRODUCTION LEVELS. PLEASE SUMMARIZE AND EVALUATE THE IMPACTS OF THE ACTUAL PROPOSED CHANGES IN THE LAND ELEMENTS AND THEIR PROJECTED EFFECTS ON WATER QUALITY.	OSM / Sylvester-Bovard	Yes (in part)	While we are not directing the contractor to remove the discussion of coal production from this section, the contractor should provide a characterization of what the chemical impacts to surface water quality would be as a result of the identified land elements. Essentially you are being asked to identify what the impacts are in addition to the already included analysis of how impacts will increase or decrease.
4.5.3.3.1.1	4-205	28-39	THIS PARAGRAPH SHOULD DESCRIBE THE RELEVANT IMPACTS OF THE ELEMENTS SUMMARIZED; AND NOT JUST THE ELEMENTS AND THE TECHNIQUES THAT MIGHT BE USED. S/B: ", applicable to areas that are forested or would revert to	OSM / Sylvester-Bovard	Yes	Please revise the paragraph as suggested

			forest under conditions of natural succession, would also support the requirement to restore stream form and function, because [EXPLAIN]. Requirements for baseline monitoring of a full suite of chemicals, flow measurements, and stream biological condition, will help to ensure compliance with requirements applicable to hydrologic impacts, including requirements for restoration of stream function. To achieve this protection and restoration of streams and hydrology, watershed will need to be reestablished to function similarly to premining function. Monitoring of stream hydrology lasts only until release of the bond applicable to this function, but the bond period must include the time required for any mandatory restoration of stream form and function. In order to restore stream form and function, in many cases the operator would have to establish watersheds that provide flow regime, chemical constituents, and sediment quantity and characteristics similar to pre-mining conditions."			
4.5.3.2.2.1	4-205	34-36	The final clause in this sentence does not appear to be complete.	Texas	Yes	
4.5.3.2.2.1	4-205	9	There appears to be an errant open parenthesis.	Texas	No	Duplicative. Addressed in another comment
4.5.3.2.2.1	4-205	15	A number is missing after the word Alternative.	Texas	Yes	
4.5.3.3.1.1	4-205	26-7	AREN'T BASELINE DATA AND ANALYSIS, AND MONITORING, DISCUSSED ABOVE AS WATER ELEMENTS? WHY DISCUSS THEM IN THIS SECTION, ALSO?	OSM / Sylvester-Bovard	No	The contractor is talking about hydrologic impacts in this section as well.
4.5.3.3.1.1	4-205	33	Requiring that watersheds "be reestablished to a level that mimics pre-mining conditions" may have the effect of allowing mining only in previously disturbed watersheds and preventing mining in undisturbed watersheds. Water quality samples collected by the US Forest Service in the late 1970's show an average TDS concentration of 265 mg/l for four mining disturbed watersheds distributed across eastern Kentucky while the average TDS concentration for undisturbed watersheds would likely be below 50 mg/l. It would likely take decades for TDS concentrations to return to the undisturbed baseline concentration of less than 50 mg/l. Under this requirement, the impacts to coal production may be greater than projected in the	Kentucky	Yes	Please clarify what is meant by the term "mimics pre-mining conditions." Were you referring to maintaining form and function of streams, maintain stream use, or what?

			Draft EIS.			
4.5.3.3.1.1	4-205	39	Does "characteristics that are similar to pre-mining watersheds" refer to current conditions as defined by baseline sampling which could include impacts from previous mining, watersheds that are unaffected by previous mining but may have been affected by other activities such as logging, watersheds that are essentially unaffected by any disturbance, or other watershed condition? Please clarify.	Kentucky	Yes	Please clarify what is meant by this term "pre-mining characteristics."
4.5.3.3.1.1	4-205	29&38	The requirement to achieve "stream form and function" is defined as including flow-regime, chemical constituents, physical parameters, and sediment characteristics similar to pre-mining watersheds. This appears to be an expansion of the definition for stream form and function used in Chapter 2. Please clarify.	Kentucky	No	The reviewer of this comment was unable to locate a definition of form and function in Chapter 2.
4.5.3.2.1.2	4-204	22-34	THIS PARAGRAPH DESCRIBES TECHNIQUES OR METHODS. HOWEVER, WHAT IS ACTUALLY NEEDED IS A DESCRIPTION OF THE IMPACTS OF THE PROPOSED RULE REQUIREMENTS. DID YOU INTEND TO ADDRESS TOPICS SUCH AS: [(1) SUMMARY OF RELEVANT PROPOSED REQUIREMENTS; (2) TO MEET THESE REQUIREMENTS, WE ANTICIPATE THAT MINE OPERATORS WILL NEED TO TAKE ACTIONS SUCH AS: . . . ; AND (3) WE PROJECT THAT THE IMPACTS OF THOSE CHANGES IN MINING TECHNIQUES OR METHODS WILL BE . . . ?]	OSM / Sylvester-Bovard	Yes	The referenced paragraph should be revised to make a more clear presentation of impacts that would be anticipated as a result of the actions presented in this paragraph.
4.5.3.2.1.2	4-204	27-34	An explanation of "more efficient sediment ponds" is needed or how they are proposed to be more efficient. EPA has established total suspended solids effluent limits. OSM does not have the authority to change these limits.	Virginia	Yes	In lines 30 and 31, change the words "more efficient sediment ponds will" to "more efficient sediment control measures may"
4.5.3.2.1.2	4-204	7-12	S/B: "streams is projected to reduce impacts on down-gradient reaches. [WHY? IN WHAT WAYS? TO WHAT EXTENT?] Nonetheless, there would still be projected loss of ephemeral stream reaches that would adversely affect some headwater stream ecological functions such as habitat provision and nutrient and organic matter transport. [ARE THESE FLUVIAL	OSM / Sylvester-Bovard	No	Alternative 5 is expected to reduce impacts on streams in a variety of ways, including, a strict definition of material

			PROCESSES? THEY SOUND LIK CONDITIONS OR FUNCTIONS.] On the other hand, we project that the impacts of mining on affected stream reaches will be improved by performance standards requiring restoration of form and function. And, as discussed above, because Alternative 5 provides for AOC configurations to exceed original elevations, this alternative is expected to reduce the number and size of valley fills, primarily in the Appalachian Basin. This could decrease the length of streams affected by mining." [THE REQUIREMENT TO RESTORE FORM AND FUNCTION IS NOT A "COMPENSATORY MITIGATION REQUIREMENT." IT IS A PERFORMANCE STANDARD FOR RECLAMATION. SMCRA DOES NOT REQUIRE "MITIGATION".]			damage and on permit repair standard of form and function. Alternative 5 would require permit coordination with the CWA, so some impacts to streams would require mitigation.
4.5.3.2.1.2	4-204	3	WHAT ARE "FLUVIAL PROCESSES"? IS THERE A LESS TECHNICAL TERM THAT WOULD WORK, HERE? WHY ARE "FLUVIAL PROCESSES" NOT SUBSUMED IN "SURFACE WATER HYDROLOGY"?	OSM / Sylvester-Bovard	No	Fluvial processes, in the context of 4.5.3.2.1.2 refers to a physical impact to a land element. Therefore, this section disuses morphological and E&S impacts, and not chemical processes.
4.5.3.2.1.2	4-204	5	AFTER END OF FIRST SENTENCE, INSERT SUMMARY OF 1ST BULLET POINT UNDER "MINING THROUGH OR NEAR STREAMS" IN CONCEPT PAPER USED TO BRIEF ASLM; DISCUSS IMPACT.	OSM / Sylvester-Bovard	Yes	Please consider comment
4.5.3.2.1.2	4-204	15	AFTER "Stream morphological changes", INSERT " [changes in stream form]"	OSM / Sylvester-Bovard	Yes	Please consider
4.5.3.2.1.2	4-204	16	AFTER END OF FIRST SENTENCE, S/B: "Thus, for example, if more water or more sediment flows along a stream channel, that may change location, size, or function of riffles and pools, or may scour a stream channel. [DELETE THE REFERENCE TO CWA—IRRELEVANT TO IMPACTS OF PROPOSED RULE] It is possible that operator efforts to restore stream form will need to address the watershed, rather than just a stream. [EXPLAIN WHY.] Reestablishment of pre-mining land use capability, and revegetation, will be important aspects of restoring stream form and function—particularly if the land was	OSM / Sylvester-Bovard	Yes	Please consider comment

			forested before mining. [EXPLAIN WHY.]			
4.5.3.1.2.2	4-203	25-27	This is all we can say about groundwater quality impacts?	OSM / Calle	No	
4.5.3.1.1.3	4-203	1	Replace "...mining production in the Northwest..." with "...stream impacts in the Northwest..."	Utah	Yes	
4.5.3.1.1.3	4-203	2	THIS SENTENCE SAYS MINING PRODUCTION IN THE NW REGION IS PROJECTED TO BE REDUCED BY 84%. DOESN'T CRAYNON'S DRAFT EXECUTIVE SUMMARY SAY 33%? WHAT'S CORRECT, AND WHAT'S THE BASIS FOR THE PROJECTION?	OSM / Sylvester-Bovard	No	84% reduction is consistent with Table 4.5.3-1. Not familiar with Craynon's summary or the source of the prediction.
4.5.3.1.1.3	4-203	4	Replace "...mining production in the Other Western..." with "...stream impacts in the Other Western..."	Utah	Yes	
4.5.3.1.1.3	4-202	3-6	How are groundwater impacts intimately related to length of stream impacted? Has this relationship (assumption) been described anywhere?	OSM / Calle	No	Addressed in response to other comment
4.5.3.1.1.3	4-202	11-13	THE FIRST SENTENCE SAYS THAT [ADVERSE] GROUNDWATER IMPACTS "could be considered reduced by a similar amount." DID YOU MEAN THAT WE "project" THEM TO BE REDUCED BY A SIMILAR AMOUNT? IF SO, WHY? THE LAST SENTENCE SAYS THAT IMPACTS ON GROUNDWATER ARE TYPICALLY TEMPORARY, AND THEREFORE ARE NOT PROJECTED TO BE "that significant." WHAT DOES THIS MEAN? SHOULD THIS BE SAID FOR ALL ADVERSE IMPACTS ON GROUNDWATER, IN ALL REGIONS, THEN?	OSM / Sylvester-Bovard	No	The document explains, in other sections, that ground water impacts (along with many of other impacts) are proportional to production/affected acres. This is a fundamental assumption of the document. They are referring to that many of the groundwater impacts in the Gulf regions, say Texas, are from dewatering wells surrounding the active permit that keep the pit dry. If mining ceases, then the pumps are shut off and GW levels are able to

						rebound, hence the temporary impact. Also, there will be fewer mines, so there will be fewer GW impacts, both physical and chemical.
4.5.3.1.1.3	4-202	16-17	THIS SENTENCE IS NOT LOGICAL. THE FACT THAT THE GROUND WATER IN THE REGION IS TOO MINERALIZED FOR MOST USES, MAY BE RELEVANT TO THE POTENTIAL IMPACT OF THE ALTERNATIVE ON THE USE OF GROUNDWATER, BUT IT'S IRRELEVANT TO WHETHER THE ALTERNATIVE COULD AFFECT THE QUANTITY OF GROUNDWATER. ALSO, THERE'S NO EXPLANATION OF WHY OR HOW AN IMPACT ON STREAMS WOULD AFFECT GROUND WATER QUANTITY.	OSM / Sylvester-Bovard	Yes	Several other comments had the same comment. Please explain the rationale for stating that predicted reduction in GW will have little impact because GW uses can't really use the water, regardless if mining further affects the water. Are you saying that most people don't use GW for supply in the Illinois basin? Please clarify.
4.5.3.1.1.3	4-202	3-4	Alternative 5 is predicted to results in a decrease of approximately 20% of acres disturbed and stream impacts in the Appalachian Basin, when compaed with the No-Action Alternative with the likely result of fewer impacts to historic properties..	VA SHPO	No	While what the commenter says is true, the comment is duplicative in that the contractor was instructed to address this in the disposition of another comment
4.5.3.1.1.3	4-202	1	It is not at all clear what the data in this table is intended to show either from the table or the discussion in lines 3-21 on this page and 1-6 on page 4-203. The data seem to be pointing to some correlation of stream impacts to public and domestic ground water supply/use, but no sense can be made of this apparent correlation.	Texas	No	The Table and associated explanations are sufficiently clear.
4.5.3.1.1.3	4-202	5	THIS SENTENCE ASSERTS THAT, EFFECTIVELY, ALTERNATIVE 5 WOULD RESULT IN IMPROVED	OSM / Sylvester-Bovard	Yes	The EIS Team will include details

			GROUNDWATER QUALITY IN THE APPALACHIAN BASIN (ONLY) BECAUSE THERE'D BE LESS ACREAGE DISTURBED BY SURFACE MINING. IT IS NOT REASONABLE TO PROJECT THAT THE IMPACT OF ALTERNATIVE 5 ON GROUNDWATER WOULD ONLY BE THE RESULT OF DISTURBING FEWER ACRES. THERE HAVE TO BE SIGNIFICANT IMPACTS BECAUSE OF IMPROVED PERMITTING REQUIREMENTS AND PERFORMANCE STANDARDS. THIS SENTENCE IS UNTENABLE AS TO ITS IMPLICATIONS ABOUT THE EFFECTS OF THE RULEMAKING.			regarding assumptions with respect to the methodology, including discussion of mitigating factors associated with regulatory provisions. While the methodology utilized which equates the relative magnitude of groundwater impacts to the magnitude of area disturbed is not the most comprehensive is deemed suitable method the evaluate the relative impacts across the range of alternatives.
4.5.3.1.1.3	4-202	6	PLEASE VERIFY THE LAST SENTENCE IN THIS PARAGRAPH. DOES IT MEAN THAT GROUNDWATER RECHARGE RATES WOULD BE SLOWER UNDER ALTERNATIVE 5?	OSM / Sylvester-Bovard	Yes	Provide clarification per comment.
4.5.3.1.1.3	4-202	7	Replace "Projected mining in the Colorado Plateau..." with "Projected stream impacts in the Colorado Plateau..."	Utah	Yes	
4.5.3.1.1.3	4-202	10	Replace "Projected levels of mining in the Gulf Coast..." with "Projected stream impacts in the Gulf Coast..."	Utah	Yes	
4.5.3.1.1.3	4-202	18	Replace "Mining in the Northern Rocky Mountains..." with "Stream impacts in the Northern Rocky Mountains..."	Utah	Yes	
4.5.3.1.1.3	4-201	29-32 and Table 4.5.3-1	S/B: "Table 4.5.3-1 summarizes the projected miles of stream per year that would be disturbed by mining, under Alternative 5, [WHAT IS THE RELEVANCE OFTHE MILES OF STREAMS (SURFACE WATER) DISTURBED TO IMPACT ON GROUNDWATER? AND HOW IS USE OF STREAMS (?) FOR PUBLIC OR DOMESTIC WATER SUPPLY RELEVANT TO THE IMPACT OF THE RULE ON GROUNDWATER? EXPLAIN. IT APPEARS THAT THERE ARE ERRORS IN THE	OSM / Sylvester-Bovard	Yes	Provide clarification per comment.

			PARAGRAPH DESCRIBING THE TABLE, AND/OR ERRORS IN THE TABLE. THEY DON'T SEEM TO CORRESPOND. IN THE TABLE, SPELL OUT "GROUND WATER" IN THE HEADINGS. HOW ARE THE TWO RIGHT-HAND COLUMNS OF DATA, ON USE OF GROUND WATER, RELEVANT TO THE HEADING OF THE PRECEDING TEXT SECTION, OR TO THE NAME OF THE TABLE?]			
4.5.3.2.2.1	205	9	grea(. Should be great.	N. Mex.	Yes	
4.5.8.1	4-232	31-40	OSM has failed to properly prepare a fair and scientifically sound Environmental Impact Statement as evidenced by the language below, found on the cited section, line and page number. "As discussed in Chapter 3, the study area for this DEIS analysis consists of the 25 states in which coal mining occurred in 2008 or is likely to occur in the foreseeable future. This proposed federal action considered in this DEIS would affect the human environment in the 25-state study area. For an action involving federal rules that would have nationwide applicability, it is not feasible to evaluate all specific past, present, or reasonably foreseeable future activities and associated cumulative effects in each state, ecoregion, or watershed in which mining occurs. For most of those other activities, OSM has no information, and developing and analyzing information on those actions and their impacts would have exorbitant costs. Furthermore, analysis of those actions and their effects is not central to an informed evaluation of the impacts of this federal action."	Virginia	No	Comment noted
4.5.8.1	4-232	34-38	*"...cumulative effects in each state, ecoregion or watershed...OSM has no information,..." Perhaps an EIS document prepared by Corp of Engineers or EPA can provide insight into what they considered in their EIS when making rule changes that may widespread effects to watershed, state, regionally or nationally.*	OSM / Jass	No	Suggestion noted
4.5.6.3	4-220	1-4	This discussion is weak	OSM / Yellowman	No	
4.5.6.1.1.1	4-214	2	The underground employment number for the Gulf Coast region is incorrect.	Texas	Yes	Table 4.5.1-1 indicates no underground mine production in the Gulf

						Coast region. Please reconcile this with Table 4.5.6-1
4.5.3.3.2.1	4-206	15-30	LIKE SEVERAL OTHER PARAGRAPHS CONCERNING ALTERNATIVE 5, THIS PARAGRAPH EVALUATES THE IMPACTS OF CHANGES IN COAL PRODUCTION, AND NOT THE PROPOSED RULE. WE NEED AN EVALUATION OF THE PROJECTED ADVERSE AND BENEFICIAL ENVIRONMENTAL IMPACTS OF THE PROPOSED RULE, INCLUDING AN EXPLANATION OF THE BASIS FOR THE EVALUATION.	OSM / Sylvester-Bovard	Yes	The EIS Team will include details regarding assumptions with respect to the methodology, including discussion of mitigating factors associated with regulatory provisions. While the methodology utilized which equates the relative magnitude of groundwater impacts to the magnitude of area disturbed is not the most comprehensive is deemed suitable method the evaluate the relative impacts across the range of alternatives.
4.5.3.3.1.2	4-206	8-12	[WHAT ARE THE IMPACTS OF THE PREFERRED ALTERNATIVE? WHAT IS THE BASIS FOR PROJECTED IMPACTS?] EXISTING LANGUAGE S/B: "Reforestation requirements applicable to lands that are forested or would revert to forest under conditions of natural succession, willhelp to better limit erosion. [I DO NOT UNDERSTAND WHAT POINT WAS INTENDED IN THE SECOND SENTENCE OF THE PARAGRAPH. PLEASE REVISE TO CLARIFY.] Monitoring [OF WHAT?] through bond release should ensure restoration of stream function, thereby ensuring long-term stability [OF WHAT?].	OSM / Sylvester-Bovard	Yes	Provide clarification per comment.
4.5.3.3.1.2	4-206	5-6	THE LAST SENTENCE IN THIS PARAGRAPH REFERS TO THE IMPACTS FROM THE LACK OF A REQUIREMENT TO RESTORE EPHEMERAL STREAM LOSS. HOWEVER,	OSM / Sylvester-Bovard	Yes	Provide clarification regarding impacts to ephemeral streams.

			THERE IS NO SUCH REQUIREMENT UNDER CURRENT RULES-- SO THIS IS AN IMPACT OF ALTERNATIVE 1, NOT AN IMPACT RESULTING FROM THE CHANGES PROPOSED IN ALTERNATIVE 5. THE SENTENCE SAYS THE EXTENT OF THE IMPACT IS NOT READILY KNOWN. OK—IF IT'S A POTENTIALLY SIGNIFICANT IMPACT, THEN DISCUSS WHETHER YOU CAN EITHER PROJECT IT QUANTITATIVELY, BY MAKING ASSUMPTIONS, OR DESCRIBE AT LEAST QUALITATIVELY.			While they are not afforded the same restoration requirements of intermittent/perennial streams, provision do require reconstruction of ephemeral conveyances commensurate with the pre-mining condition (ex. Drainage density)
4.5.8.2	4-234	23-24	I think Navajo Nation EPA has assumed partial primacy on NPDES permits, but I'm not sure.	OSM / Yellowman	Yes	
4.5.6.4	4-220 4-221	9-34 1-18	Throughout the EIS, utilities are specific to water supplies. The EIS should also consider electricity costs for all alternatives. Wastewater treatment plants will not be affected one way or the other regardless of the alternative chosen since mine sites typically have their own private wastewater treatment plants, if needed.	Virginia	No No	OSM has determined that analysis of impacts to the electricity production in the country is beyond the scope of this document. Duplicative and responded to in other section
4.5.6.2.2	4-219	14-19	Other regions have concentrated minority areas (Tribes, Hispanic, etc) so I would argue that NW and Gulf Regions are the ones with Minority Effects.	OSM / Yellowman	Yes	Acknowledge the minority influences indicated by commenter
4.5.6.1.3	4-216	15-16	Indicates average family size was used to analyze data so what is the average family size figure used here?	OSM / DP	No	Duplicative of other comment.
4.5.6.1.1.2	4-214	9-11	A statement explaining the reasons for using new regional areas to evaluate employment changes, instead of the original coal producing regions, should be included.	Utah	Yes	The tables presented generally use the coal producing regions for presenting information. The text in this section changes to presenting

						data as "western' states and 'interior' states. Please explain.
4.5.8.3	4-235	35-39	There is no reference to cumulative effects on ground water flow.	TG OSM Hydro Team	Yes	Since impacts to ground water were evaluated in Alternative 4, there should be a cumulative impact analysis provided or an explanation of why it is not needed or provided. In the introduction to Sec. 4.5.8.3, the contractor should provide some explanation of how it was determined that only the four resources identified would be evaluated.
4.5.8.3	4-235	35	Why are Land Use, Visual Resources, and Recreation not considered in the "Cumulative Impacts" section?	OSM / FK	No	See Section 4.0.4
4.5.6.4.1	4-220	20-22	The sentence beginning with "Expected production" is an incomplete sentence. Please complete the sentence.	OSM / JC	Yes	
4.5.6.1.4	4-218	17-32	Since royalties are technically not taxes, but a partial recovery of a resource that is owned by the respective state and federal government, the economic impacts associated with royalties should be included in a separate section apart from the taxes.	Utah	Yes (in part)	While we do not accept the premise that there is a need to analyze royalties separate from taxes, we do agree that if the contractor has not provided a general discussion of the impacts that typically might be associated with such changes in revenue collections, this should be done.

4.5.6.1.4	4-218	17-32	NEPA requires environmental analysis of federal resources and impacts to them when decisions regarding their future use are proposed. Federal coal is a natural resource that will definitely be affected by proposed changes to federal coal mining rules, and the resources and impacts to these resources should be more strongly considered in this EIS. Some general statement about the impact of both current and future federal coal royalties on the federal government's revenue should be included.	Utah	No No	OSM continues to work with the contractor to further refine the impact analysis Royalties are discussed in Table 4.56-8
4.5.6.1.4	4-217 4-218 4-219	ALL ALL 1-4	What is the basis for these assumptions?	Virginia	No	It is unclear as to what assumptions the commenter is inquiring about
4.5.6.1.1.3	4-215	2	It is incomprehensible that an assumed 26.3% reduction in coal production in the Gulf Coast region could result in a positive employment change of over 1,000 individuals.	Texas	No	The referenced table is showing an increase in the unemployed, not in the employed..
4.5.6.1.1.3	215	Table 4.5.6-2	(%) is not indicated in column headings 1 and 3, which is inconsistent with the tables that make this comparison for Alternatives 1-3	N. Mex.	Yes	
4.5.8.3.1	4-236 thru 4-247	Tables 4.5.8-1 throug h 4.5.8-6	Clarify in each box which states "If implemented, high positive or moderate positive" What does "positive" refer to? The point of these tables isn't clear. Again, 8th grade readers need to be able to look at this and understand the information within each table and the inferred variances due to the location of each box. There is no discussion preceeding these tables to provide insight into their purpose in this DEIS.	OSM / Jass	No	The tables are adequately explained as to their purpose and most readers would be able to ascertain the general nature of cumulative impact described therin.
4.5.8.3.1	4-237		Under the discussion of Forestry Trends, need to either change "turbidity" to "sediment contribution" or add "sediment contribution" to the use of the term "turbidity."	OSM / JC	Yes	
4.5.8.3.1	4-236	7-9	The tone of this sentence is suggestive that all surface mining results in the release of toxic materials into surface water. This is not the case with every surface mine that was ever permitted and mined. This is a gross oversimplification of matters as the	TG OSM Hydro Team	Yes (in part)	Please revise this sentence to change the word "acid" to "coal" and strike

			required site-specific permit geochemical analyses (Acid-Base Accounting data and/or leaching tests) of the overburden and/or refuse material would have to be able to demonstrate that this material would not result in elevated concentrations of sulfate, TDS, and specific conductance, and other toxic trace elements. If the geochemical analyses (ABA) indicate a potential for the release of toxic minerals or ions, then a selective handling plan is warranted for the mine permit, supplemented with a relevant, rigorous baseline and compliance surface, ground water, and biological monitoring program.			everything after the word "drainage".
4.5.8.3.1	4-236	Table 4.5.8-1	Future column. Each box in this column states "If implemented, high positive or moderate positive" what does this refer to. Also,	OSM / Jass	No	The table is relatively self explanatory and includes a range of impacts including positive and adverse and negligible, moderate, high, etc.
4.5.8.3.1	4-236	Line 11.	No table 4.5-1	OSM / Jass	No	Duplicative. Resolved in disposition of other comment
4.5.8.3.1	4-236	11	Table reference should be 4.5.8-1	OSM / JC	Yes	
4.5.8.3.1	4-236	14	In this and similar tables why isn't the no action alternative analyzed?	OSM / CW	No	This table shows the cumulative effect when the existing SMCRA program is compared to or combined with each of the proposed alternatives.
4.5.8.3.2	4-239	Table 4.5.8-2	For SMCRA Title IV programs, there is a high likelihood that AML related Priority 3 features will likely not be reclaimed.	Virginia	No	Alt. 5 assumes that there will be no net change in coal production on a national level. While it does predict shift in production within the regions and shift in production as to mining method, other than changes in the

						amount of revenue collected for underground ($0.125 / ton vs. $0.285 for surface mine coal) vs. surface production, there should be little change in AML revenues on a national level.
4.5.8.3.2	4-238	3-7	This sentence illustrates what is current wrong with SMCRA surface and underground mining permits. Once again, this paragraph assumes that the baseline and compliance monitoring sites are in relevant geographic locations, relative to the mining permit. Quarterly sampling is a regulatory sampling frequency and is not frequent enough to discern a pattern of hydrologic impacts; monthly sampling is needed for a truly scientific assessment. Under Alternative 5, relevant monitoring sites will be required to achieve the goals outlined in this paragraph. "Seepage run" baseflow monitoring measurements will be needed for baseline and compliance monitoring in order to discern material damage. Commonly, dewatering of streams is interpreted by coal operators and consultants as a result of inadequate precipitation. A rain gauge must be mandated and located in the sub-watershed containing each mining permit. This is an absolute necessity to document precipitation, and also complements the integrated enhanced surface water monitoring method (it should be seepage run data in each stream and tributary), and at a monthly sampling frequency.	TG OSM Hydro Team	No	Changes proposed here seem to be related to rule language, and this is not the venue to suggest rule language change.
4.5.8.3.2	4-238	5	Table reference should be 4.5.8-2	OSM / JC	Yes	
4.5.8.3.2	4-238 et al	8	This and other cumulative impact tables in this section should provide a more complete, summarized description of the cumulative impacts. Another issue with the tables as presented in this document is that they make no differentiation in regions. When coal production in the east is generally predicted to decrease acres / stream length impacts while the Rockies - Great Plains region predicts acre / stream length increases, can we say that there is uniformly across the country substantial reductions in acres disturbed.	OSM / JC	Yes	Please make the tables more reflective of cumulative impacts and adjust for those more significant cumulative impacts that may exist between regions.

4.5.6.4.2.1	4-223	1	Between 4.5% and 67.5% seems like an inordinately large variation or swing. Please verify this number range.	OSM / JC	Yes	
4.5.6.4.2.1	4-223	14	This sentence makes no sense. If production is eliminated, how do we reconcile that with the number 32%. Please review this sentence.	OSM / JC	Yes	
4.5.6.4.2.1	4-222	13-15	There is limited haulage of lignite produced in Texas over commercial rail lines. Only one mine producing about 2.5 million tons per year ships over commercial rail lines.	Texas	Yes	In view of this comment, please review any impact analysis or conclusions that are made for the Gulf Coast Region and adjust the conclusions as necessary
4.5.8.3.3	4-240	7	Should this refer to Table 4.5.8-3 instead?	OSM / CW	No	Duplicative of comment below
4.5.8.3.3	4-240	7	Table referenced should be 4.5.8-3	OSM / JC	Yes	
4.5.8.3.4	4-242	6	Shouldn't this refer to Table 4.5.8-4?	OSM / CW	No	Duplicative of comment below
4.5.8.3.4	4-242	6	Table referenced should be 4.5.8-4	OSM / JC	Yes	
4.5.6.4.2.3	4-225	22-24	There is no coal haulage of lignite produced in Texas over public roads.	Texas	Yes	In view of this comment, please review any impact analysis or conclusions that are made for the Gulf Coast Region and adjust the conclusions as necessary
4.5.8.3.5	4-245	1	Need to re-evaluate the conclusion that CWA and NPDES programs would have negligible impacts on special status species. When special status species are aquatic, how can controlling water quality have only a negligible effect on these aquatic listed species.	OSM / JC	Yes	Please acknowledge the positive impacts these regulatory programs have when protected aquatic species are present in the downstream areas.
4.5.8.3.6	4-246	Table 4.5.8-6	The future minor positive impact for Title IV is questionable and is not supported by factual data. There would likely be fewer AML dollars to support reclamation. Potential adverse impacts to UMWA Combined Benefits Fund and pensions benefits.	Virginia	No	Some impact to jobs and economics is an inherent positive impact in a program that is administered in

						the manner that the AML program is (grants to states and contracts with private contractors).
4.5.8.3.6	4-246	7	Table referenced should be 4.5.8-6	OSM / JC	Yes	
4.5.8.3.6	246	Table 4.5.8-6	Column 3, Row 1: Should be "loss" not "lost"	N. Mex.	Yes	

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	Sec. 4.6
Contact Information	
Name	combined
Telephone Number	
Email	

Section	Page #s	Line #s	Comment	Commenter	Incorporate (Yes/No)	Proposed Disposition
4-6	247 - 249		This section should be at the beginning of the chapter to add some context to the discussions of the alternatives.	OSM / DB	No	No.
4.6	4-248	9-14	I'm not sure what we are trying to say in this paragraph. First we say that soils will erode then we say soils are protected under the regulations and then we claim that soils can develop from mine soils. So what are we trying to say? If we follow the regulations there is no loss even if it is an approved soil substitute. The soil resource placed back on the mined surface are the best available soil material that are best able to support the intended post mining land use and are equal or more suitable than the existing topsoil. .	OSM / BJ	No	Stands as written.
4.6	4-248	9	Erosion should be defined as both wind and water	OSM / AMc	Yes	Apply per comment.
4.6	4-247	20-21	SMCRA regulations should be referenced first, followed by the CEQ regulations implementing NEPA. The CHIA and NEPA documents assess different aspects of disturbance(s) in a watershed and potential hydrologic impacts from mining.	OSM / Hydro team	No	Stands as written.
4.6	4-248	1-2	This seems to be an incomplete sentence. Please revise accordingly	OSM / JC	Yes	Apply per comment.

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	Sec. 4.6
Contact Information	
Name	combined
Telephone Number	
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Section	Page #s	Line #s	Comment	Commenter	Incorporate (Yes/No)	Proposed Disposition
4-6	247 - 249		This section should be at the beginning of the chapter to add some context to the discussions of the alternatives.	OSM / DB	No	No.
4.6	4-248	9-14	I'm not sure what we are trying to say in this paragraph. First we say that soils will erode then we say soils are protected under the regulations and then we claim that soils can develop from mine soils. So what are we trying to say? If we follow the regulations there is no loss even if it is an approved soil substitute. The soil resource placed back on the mined surface are the best available soil material that are best able to support the intended post mining land use and are equal or more suitable than the existing topsoil. .	OSM / BJ	No	Stands as written.
4.6	4-248	9	Erosion should be defined as both wind and water	OSM / AMc	Yes	Apply per comment.
4.6	4-247	20-21	SMCRA regulations should be referenced first, followed by the CEQ regulations implementing NEPA. The CHIA and NEPA documents assess different aspects of disturbance(s) in a watershed and potential hydrologic impacts from mining.	OSM / Hydro team	No	Stands as written.
4.6	4-248	1-2	This seems to be an incomplete sentence. Please revise accordingly	OSM / JC	Yes	Apply per comment.

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	4.7 Methodology Section
Contact Information	
Name	
Telephone Number	
Email	

	Page #s	Line #s	Comment	Commenter	Incorporate (Yes/No)	Proposed Disposition
4.7.4	All	All	There is little substance to this section. There is no mention or indication to the method used to determine the biological resource impact under each alternative. Half of this section describes impacts to wetlands, which is useful information but has no place in the methodology.	Nick Grant-OSM	Yes	There were several comments that were received pertaining to the methodology section that complain about the lack of examples, scenarios, decision-making, and information that was used during the expert elicitation process to arrive at the metric numbers for each of the alternatives. Please provide insight into the thought processes used during the expert elicitation process. You could provide some examples that included how you analyzed the impacts for the alternatives for some mining scenario.
4.7.4	4-266	17-19	There is little to no discussion of special status species in any of the alternatives as implied here in the method.	Nick Grant-OSM	Yes	The page number and lines this comment references contain language that infers there will be an analysis of how the alternatives will affect special species. Please make sure the alternative analyses are consistent with this referenced statement.
4-7	249 - 270		This section should be at the beginning of the chapter to add some context to the discussions of the alternatives.	Dave Best OSM	Yes	Please strongly consider this comment. While the current document mentions the methodology section, many folks have seemed to have read all of the alternative

	Page #s	Line #s	Comment	Commenter	Incorporate (Yes/No)	Proposed Disposition
						sections before reading the methodology, but led to much confusion about how the impact "numbers/metrics" were developed. I suggest either moving the methodology section to the beginning of Chapter 4 or add several more "red flags" to notify the reader that they would become familiar with the methodology before reading the alternative analysis.
4.7.1.1	4-250	9-12	1:1 relationship in the amount of coal mines irrespective of the coal quality. Very bad assumption. Eastern 13000 btu vs 7600 btu (w/ ash) western coal can not be directly substituted w/o major overhauls to receiving powerplants. This problem also affects the underlying thinking in section 4.7.1.10, -11, -12, & -13	Jazz OSM	No	The issue with the need to upgrade power plants to burn western coal is true and this documents assumes the power industry would perform the upgrades to accept the coal or use some other alternative to coal.
4.7.1.2	4-251	24 34	What is NCRP? Is NGO defined earlier?	Jazz OSM	Yes	Make sure all acronyms are defined. Neither of these are listed in the acronyms section of Chapter 4.
4.7.1.8	4-255	Table	This section attempts to explain how the tonnage loss numbers in the table were derived from the matrix, however it fails. Even utilizing the "explanation" in the previous sections about how ranges were determined, the explanation fails to be simple. Again, the processes and concepts need to be presented for comprehension by an 8th grade reader.	Jazz OSM	Yes	There were several comments that were received pertaining to the methodology section that complain about the lack of examples, scenarios, decision-making, and information that was used during the expert elicitation process to arrive at the metric numbers for each of the alternatives. Please provide insight into the thought processes used during the expert elicitation process. You could provide some examples that included how you analyzed the impacts for the alternatives for some mining scenario.
4.7.1.10	4-257	L – 22	Closing " needed.	Jazz OSM	Yes	revise
4.7.1.9	4-257	Line 12-16.	How can areas be unaffected? In this example, alternative 4 will require meeting 404 permit	Jazz OSM	Yes	Like other comments made, please provide insight into how the impact

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			requirements, requires upfront evaluation of effects to streams otherwise no mining, no mining thru streams, etc. Just how do these requirements not affect surface mines in Montana, AK or WY, or the underground mines in IL. Given this incorrect assumption, how can this exclusion of consideration be used to determine what will or won't be mined, & all numbers generated as a result of that determination?			analysis was performed during the formal elicitation process. Please consider providing examples of the types of analyses you performed or discussed when trying to determine the impacts of an alternative on different mining scenarios in the coal regions.
4.7.3	4-266	10	Where is referenced section 4.9.1?	Jazz OSM	Yes	Revise to refer to correct section
4.7.1.11	259	14-15	The table and the text list the total production loss as 28.6 tons. The production loss is shown on page 255 to be 22.27 tons, not 26.8.	" Garnett OSM	No	The two tonnages referenced are not directly comparable as they represent different measurements
4.7			Tables need to be numbered. This section would better fit at the beginning of the chapter as a road map to how the impacts were arrived at. It was strange to read through all of the information first then get to the discussion of how it was calculated.	Garnett OSM	Yes	Agreed, please consider adding this section to the beginning of the chapter.
4.7.1.4	4-251	32-34	There are a lot of significant assumptions that were derived from the Subject Matter Expert panel in the elicitation process. As such, I feel it would be useful to provide the makeup of this panel. Names are not needed, but functions, experience, and background (i.e. Mining Engineer, 25 years, mine operator) are needed to better support the validity of this panel and process.	PC OSM Hydro Team	Yes	Please add names and qualifications of panel.
4.7.1.15	4-261	10-11	The "weighted average coal thickness for each coal-producing region" fed into a significant assumption for affected acreage. Information about this average coal thickness should be supported in the Chapter 3 Geology section.	PC OSM Hydro Team	Yes	Agreed. Please make sure Chapter 3 Geology section contains descriptions of the "weighted average coal thickness" for each of the regions.
4.7.1.2	2-251	2	Please do not use the excuse or reasoning of "time and budget to explain the rationale for a "key" decision or assumption. All of the contractors agreed to the scope of work at the price the contractors provided. The "time and budget" justification for a key assumption is poor professionalism and needs to be deleted. It sends a message to the reader that	BM OSM Hydro Team	Yes	Why not change justification in sentences 1 through 4 to say that, generally, the need to increase production results in mining companies increasing their permit size...and the larger

	Page #s	Line #s	Comment	Commenter	Incorporate (Yes/No)	Proposed Disposition
			"the authors would have developed more sound assumptions if more time and money was provided but had to use an inferior assumption because of time and money." What if an infinite amount of time and money was provided? Would you justify the reasoning for using assumptions because"an infinite amount of time and money was provided? Of course not, so it shouldn't be used in this case either.			the permit the more likely to encounter a stream impact... This provides a real justification and reasoning as to why you assumed that affected acres and affected stream length are linked to production. This is much more professional than justifying your assumptions based on time and money... that's a given for any decision.
4.7.1.8	4-255	12	Same comment as above... Aren't all projects constrained by time and budget? What value does this sentence add to the paragraph other than insinuates that "the panel would have done a different assessment if time and budget were not a factor"??? To me, it appears that this sentence is being added as a CYA in case you're questioned or critiqued on the methodology or assumptions used in the assessment.	BM OSM Hydro Team	Yes	Why not change justification in sentences 1 through 4 to say that, generally, the need to increase production results in mining companies increasing their permit size...and the larger the permit the more likely to encounter a stream impact... This provides a real justification and reasoning as to why you assumed that affected acres and affected stream length are linked to production. This is much more professional than justifying your assumptions based on time and money... that's a given for any decision.
4.7.1.4	251	32	I support the idea of stating that the SME panel included a "balanced sample of experts"...that represented both the industry and environmental perspectives....Line 36 states that the diversity of expert views itself carries valuable information..." Please include names and qualifications of the SME panel. Page 4-252 line 16 states one of the required competencies of subject-matter experts includes:	BM OSM Hydro Team	Yes	Please identify panel members and their experience relative to mining

	Page #s	Line #s	Comment	Commenter	Incorporate (Yes/No)	Proposed Disposition
			"are willing to be identified publicly with their judgments (at least be willing to be identified as a member of the expert panel). Please include the names and qualifications/expertise of the SME panel.			
4.7.1.16	4-263	1	This comment is in reference to the Table provided on this page. The assumptions for the "average underground mine life" seem very low. At least for Appalachia, most underground room and pillar mines are actively producing for the 15 to 25 year range. If they close before 10 years, it mostly because of a roof issue or contract issue, not that they ran out of reserve. Long wall mines, because of large capital cost of equipment and mine develop; tend to operate on the 25 to 40 year life time frame. In fact, I can only think if 2 underground mines (out of 44 active UG mines) that have closed in less than 10 years in Pa... This assumption seems very low. Was the life of mine estimated by the expert panel or based on real data? Line 11 and 12 on page 4-262 does not indicate the method used to determine life of mine.	BM OSM Hydro Team	Yes	Please explain how you determined "average" mine life since it affects the metrics used to describe affected acreage and stream lengths. Was it based on data or the expert team?
4.7.1.16	4-263	2-17	The description of the mythology for most sections is clear, however, it is not clear for this section. Line 3 states that the expert team determined the areas "affected" by underground mining. What is meant be "affected." Do you mean face up area and shadow area? OR do you mean just surface disturbance area/surface facility area (ie. Bonded/permitted area). Based on the table presented on page 4-263, I'm assuming that "affected" area means "bonded" area. I understand that you are trying to relate "affected area" during the life of the permit to achieve a metric of affected acres per year. However, unlike surface mines, most all of the surface disturbance for a face up area ("affected area) for an underground mine is completed in the first year (before mining begins). Therefore, is it reasonable to use a metric that assume the affected area for a UG mine is "increases" with time, when in fact all of the surface disturbance occurs in the first year? Please clarify	BM OSM Hydro Team	Yes	Please describe why you assumed that surface disturbance for underground mines is proportional with the life of the mine or at least state in the document that you recognize that surface disturbance for most underground mines is completed before coal production starts. If your metric is really tied to refuse pile growth, then state this as an assumption because not all States permit refuse piles as an "underground mine."

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			the use of the metric in Chapter 4.			
4.7	4-249	all	The methodology section clearly describes the informal elicitation process. However, the major assumptions, like production is linked to acres affected, which is linked to stream miles affected, etc., used in the analysis are not clearly summed up in a single section of the document, assumptions, but are presented in various sections of the document. I recommend incorporating an "assumptions" section that would clearly state, in a single location, the major assumptions used in your informal elicitation process. ...a section like 4.7.1.1, but more of the assumptions relating to how the numbers/metrics, like, stream miles impacted, were derived.	BM OSM Hydro Team	Yes	Please consider having an "assumption" section that is specific to the major assumptions used in determining the metrics, like production is related to affected acres, is related to affected stream miles
4.7	4-249	all	Basically, the methodology states that the informal elicitation process was used and describes some of the characteristics and requirements of an informal elicitation. Then the major metrics are presented on page 4-14 Table 4.1.3-2. The types of issues and discussions held b y the Subject Mater Experts are not described. Basically, we are left with "trusting" that the subject matter experts are correct in their analysis. You need to provide some "examples" of how you determined the effect of an alternative for certain coal regions. Did you use "typical mines." Did you use the permit information that OSM sent to you? The methodology needs some specific examples of how the team linked a particular alternative and element to production loss. Present a mining scenario and walk the reader through the types of analysis the team performed. I'm very skeptical of the numbers provided on page 4-14 Table 4.1.3-2.. I can't understand how these strict regulations will only lower stream impacts from 110 miles/year to 94 miles per year. Where is the benefit? You mean to tell me that the form function requirement will only eliminate the impact to 15% (94/110) of the streams currently being impacted???	BM OSM Hydro Team	Yes	Like previous comments, please provide some insight as to how the alternatives were applied to mining scenarios (surface, underground, refuse) in each of the mining regions. Please provide insight or examples like you did for showing how tonnage loss was related to affected acreage and affected stream length. Again, I think the problem is that you did not provide similar insight (like the tonnage loss link to affected acres) to how you applied the alternatives to mining scenarios in each of the regions.

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			Either you don't fully understand the rule, the current impacts, or are having trouble identifying the benefit to the proposed rule. If your analysis is correct, then the proposed language is not having the desired effect on stream protection. Please provide insight in to your analysis so we can better understand the validity of your estimates.			
4.7 General			It would be helpful to label each table (e.g. Table 4.7.1.7-1) as in previous sections then reference the specific table in the text.	DD OSM Hydro Team	Yes	Please label tables
4.7.1.2	4-251	2-4	If time and money were not an issue as stated, what approach would have been used to assess potential impacts?	DD OSM Hydro Team	No	Duplicate comment
4.7.1.4	4-251	32-38	The report references experts constituting the SME panel; however, the names of the SME panelist are not listed. Since public identification is one of the criteria for being on the SME panel, the names should be included.	DD OSM Hydro Team	No	Duplicate comment
4.7.1.8	4-255	12-13	Again, if time and money were not an issue as stated, what approach would have been used in the assessment?	DD OSM Hydro Team	No	Duplicate comment
4.7.1.14	4-261	4	I am not sure which table is being referred to in this sentence.	DD OSM Hydro Team	Yes	Please clarify
4.7.1.3	251	12	Should be "expert's"..."for instance" should be set off with commas	New Mexico	Yes	revise
4.7.1.3	251	13	Should be "expert's"	New Mexico	Yes	revise
4.7.1.6	253	28	"and" should be "an"	New Mexico	Yes	revise
4.7.1.13	260	8	Should be "of Alternative 4"	New Mexico	Yes	revise
4.7.1.15	261	10	Should be "(EIA),"	New Mexico	Yes	revise
4.7.4	267	17	"runoff" is not hyphenated in my dictionary (although run-on is)	New Mexico	Yes	consider
4.7	4-249		This entire section is unsupported by any data that would engender any confidence in	Texas	YES	Like previous comments, please provide some insight as to how the alternatives were applied to mining

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	- 270		the conclusions drawn regarding impacts to coal production from the implementation of Alternative 5. The author(s) has not provided any support for the elicitation process in terms of the subject matter expert (SME) qualifications, the percentage impacts applied to the various categories for each alternative assigned by the SME, and the data that was used to develop the values. Many of the examples provided are missing data so that reasonable analysis cannot be conducted. For example a key value used in developing the degree of impact would be listed in the table on page 4-263. Many of the values are missing so that a determination of the degree of impact is unsolvable. No reasonable review could be provided for this section due to it incompleteness and lack of supporting data.			scenarios (surface, underground, refuse) in each of the mining regions. Please provide insight or examples like you did for showing how tonnage loss was related to affected acreage and affected stream length. Again, I think the problem is that you did not provide similar insight (like the tonnage loss link to affected acres) to how you applied the alternatives to mining scenarios in each of the regions.
4.7.1.1	4-250	21-23	General Comment: The major assumption that the impact analysis does not consider any current trends caused by EPA and associated 402, 404 permitting processes as applied to the Appalachian region should be strongly reconsidered. Please be aware that any impacts from mining that EPA is involved (in Appalachia) WILL become a national issue. The reconsideration of this assumption is need because the projected values for mining acreage, stream length affected, coal production and subsequent economic values (revenue, wages, employment, severance taxes, etc) mention in this PDEIS is flawed. Kentucky, if not the other Appalachian states) have already experienced a drastic downturn	KY	No	The cumulative impact assessment portion of Chapter 4 includes information on 402 and 404.

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			in the initiation of new operations with the last 18 months and likely the next 12 months, if not longer. These events, in turn, greatly affect the cumulative impact analysis. There will be no business as usual anymore. An additional assumption in this section is that SMCRA rulemaking implementation may take 10-12 years. Be aware that EPA and state water agencies may implement changes within the same time period or sooner. All facets of mining projections in this PDEIS may be subject to severe revision.			
4.7	4-249	General	An appendix providing model inputs, equations / calculations, and results is necessary. Add a reference to this appendix in Section 4.7. Throughout Section 4.7, examples are provided; however, these examples are typically for Alternative 4 only. Additional information on the model inputs is necessary in order to comment adequately on the draft statement's analysis.	UT	Yes	Again, you need to provide the type of example, like you did for explaining how tonnage shift is related to affected areas and affected streams, to how you applied the alternatives to mining scenarios in each of the coal regions.
4.7.1.1	4-250	General	Add a bullet to the list of Major Assumptions stating that "Baseline coal production data are represented in Alternative 1 and are based on U.S. Energy Information Administration data for 2008".	UT	Yes	Please consider
4.7.1.1	4-250	6-8	The US Energy Information Administration (part of DOE and cited elsewhere in this EIS) reports that nationwide coal consumption is expected to significantly increase through the year 2035. Without further research, it is assumed that the increase in coal consumption is expected to be provided primarily by domestic coal producers, given the countries large coal resources and existing industry. This assumption appears to be incorrect. Source: http://www.eia.doe.gov/oiaf/ieo/coal.html	UT	Yes	I think the word "constant" in the contractors assumption referred to the current yearly increase in coal consumption would be held constant. However, please clarify and reword this assumption to better convey the true meaning of the assumption
4.7.1.1	4-250	6-8	Unless valid reasons can be provided for using the static 2008 coal production numbers to help model the environmental impacts of the potential rules on system with projected dynamic coal production, this	UT	No	The DOE projection numbers are based on assumptions as well, and their predictions may nor may not be accurate. The model uses 2008

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			assumption contributes a significant source of error to the model results that will need to be corrected. The conclusions of the EIS would otherwise be inaccurate.			production data to model the effect of the alternatives on regional coal production.. From the chapter 4 analysis, any future increase in coal production, under each of the alternatives, would have to be distributed amongst the coal regions because on the predicted regional production shifts.
4.7.1.1	4-250	General	Regarding the following statement from Alternative 2 (4.4.3.1.1.2, p165): "The 5% projected increase in surface mining in t he Northern Rocky Mountains and Great Plains indicates the belief that streams in this region have been previously impaired, most likely by gas extraction activities." It appears that this assumption of an increase in surface mining in the N Rocky Mtn region may have been made for all Alternatives as part of the model analysis. If so, <u>this assumption should be included here.</u> Without any concrete basis for this assumption, no justifiable conclusions can be made using it. Please include your source, as this assumption, if understood correctly, is critical to the model design and output.	UT	Yes	Other commenters provided similar suggestions. You should include a "model or informal elicitation "assumption section that outlines the "major" assumptions that were used when applying the alternatives to each of the coal regions to predict the production shift....
4.7.1.1	4-250	15-17	Justification for the exemption of metallurgical coal production in this analysis should be stated here. (ie. If the production is so much lower than generation coal, this should be stated together with a reference).	UT	No	This comment has already been addressed by previous conversation between OSM and the contractor. The contractor is going to add the impacts to metallurgical coal production as part of the Chapter 4 analysis.
4.7.1.1	4-250	15-17	Metallurgical coal production from elsewhere in the United States (besides Appalachian coal-producing areas) would also be affected, and justification for its omission in this EIS needs to be stated as well.	UT	No	This comment has already been addressed by previous conversation between OSM and the contractor. The contractor is going to add the

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						impacts to metallurgical coal production as part of the Chapter 4 analysis.
4.7.1.6	4-253 to 254	General	This section would be improved by simply stating that a deterministic model was used for the DEIS. Describing a stochastic model which has not been finished or used in the statement's analysis is confusing and detracts from the modeling that has been used for the analysis. Text / figures describing stochastic analyses should be withdrawn until the stochastic analysis has been completed and incorporated into the statement.	UT	No	This discussion of the stochastic approach is warranted since the contracts plan to perform a stochastic analysis (not yet included in the EIS).
4.7.1.6	4-253	14 – 16	Suggest removing discussion of Beta-PERT distributions, since these are not used for the analysis in this statement (see comment above). If maintained, then clarify the definition of the acronym PERT (which could infer Program or Project Evaluation and Review Technique).	UT	No	They plan on performing a stochastic analysis for a production impact analysis from the alternatives.
4.7.1.6	4-254	2	The document states that the "stochastic model is still being developed". This seems to severely undermine the cooperating agencies ability to evaluate and comment on the predictive methodology and raises several questions: 1. Why is a stochastic model still being developed AFTER the analysis section of the statement has been completed? 2. When will the stochastic model be completed, and how will its results be incorporated into the analysis? 3. What effects will the stochastic model results have on the analysis in the statement? Is the stochastic an academic exercise, or will its results affect the findings of the statement?	UT	No	You are correct, a stochastic model is currently being developed and will be included in the PDEIS.
4.7.1.7	4-254	General	Include a description of how representative the 2008 U.S. EIA data are for describing baseline coal production, i.e., was 2008 a typical year when compared to previous years, or was 2008 an unusual year for any of the seven coal mining regions?	UT	No	The decision to use the 2008 data was made because it was the most recent complete coal production dataset. Chapter 3.1 shows how the 2008 production relates to historical production (see US production graphs)

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4.7.1.17	4-263 to 264	General	The approach whereby affected stream length is calculated based on stream densities seems reasonable. However, this approach neglects to consider differing sensitivity to stream effects in regions with greater stream density (Appalachia) compared to regions with lower stream density (Colorado Plateau). Arguably, the sensitivity of a region to impacts to streams could be considered to be inversely proportional to the stream density. For example, consider areas A and B, each of equal size. Area A contains eight perennial streams and a stream density of 0.8 mi/100 acres, while Area B has one perennial stream and a stream density of 0.1 mi/100 acres. An alternative disturbing 100 acres would affects 0.8 miles of stream in Area A and 0.1 miles of stream in Area B, so there appears to be less effect on Area B. Now consider that Area B has only one perennial stream, so there is no suitable alternative source of water for drinking, aquatic wildlife, and recreation. Area B, on the other hand, may have seven other streams which remain unaffected and continue to provide water for drinking, aquatic wildlife, and recreation. Is there really less of an effect in Area B? An evaluation attempting to quantify such region-specific and potentially subjective criteria describing sensitivity to surface water (and groundwater) impacts may be beyond the scope this statement. Absent such considerations, it is suggested that the stream impact analysis and results include a caveat that a unit affect on streams (mi/year) may have different impacts from region to region.	UT	Yes	Please consider recognizing, in text, that there are potential short comings of using this assumption (see last sentence of UT's comment)
4.7.1.17	4-264	4 - 7	The text states that "an overall stream density for each coal resource region was calculated using a weighted basis" and that "[w]eighted regional average stream densities were calculated for	UT	Yes	See other related comment responses to including an assumptions section for model.

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			perennial, intermittent, other and total" stream lengths. However, the weighting criteria are not described nor are weighting factors identified. Additional information on the weighting approach is necessary in order to comment adequately on the draft statement's analysis.			
General (4.7)			The Production Shift Mathematical Model is not included with the draft document, nor are the model inputs and outputs provided for the five alternatives analyzed. The model must be provided in order for cooperating agencies to comment adequately on the draft statement's analysis.	UT	Yes	See other related comment responses to including an assumptions section for model.
4.7.7	4-270	1-8	Should include Hitt and Hendryx (2010) study on relation of ecological integrity of streams to cancer mortality rates.	EPA	Yes	Please include this reference.
4.7.1.1	4-250	15-17	A major assumption is that metallurgical coal production from the Appalachian region would need to be offset with production from other sources. This document does not identify any other possible sources. This implies met coal would have to be obtained outside the U.S. As met coal sales prices are typically three to four times higher than steam coal, this would be a much more significant economic impact than implied. Identify the proposed sources of metallurgical coal needed for steel production, etc. and for blending with lower quality, lower BTU western coal.	Va	Yes	The EIS will be expanded to better address the issue of met coal.
4.7.1.1	4-250	21-23	Currently evolving processes in 401, 402, and 404 permitting will likely result in reductions in adverse impacts to stream resources and stream chemistry and must be considered. Regardless of alternative, EPA's reinterpretation of the CWA is affecting coal mining and will affect this document. Will this document be modified to further address overlapping rule changes?	Va	No	CWA information is included in the cumulative impact assessment in Chapter 4.
4.7.1.7	4-254 thru	ALL	It is not understood why Alternative 4 is used in these projections, a better method would be to utilize the preferred alternative to make these projections more	Va	Yes	Please provide and explanation as to why Alternative 4 was chosen...

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	4-264		reflective of the proposed action.			

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	PDEIS Chapter 4
Contact Information	
Name	Dana Jacobsen - SOL
Telephone Number	
Email	

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4.0.2.	4-2	8--10	Alternative 2 is comprised of provisions or approaches that are considered the most protective of natural resources among the alternatives. ~~These provisions impose a substantially increased administrative and economic burden on the mining industry.~~ Suggest deleting--the focus of the proposed rulemaking appears to be on making coal mining more protective of the environment rather than on making sure that mining can be conducted with minimal administrative and economic burden.	Yes - Duplicative	There needs to be a better balance in the EIS within the EIS between factors of impacting the environment and economics. The presentation of environmental benefits are minimally described.
4.0.2	4-2	11-14	Alternative 3is comprised of provisions or approaches that are protective of natural resources but to a lesser degree when compared with those under Alternative 2. ~~Alternative 3's provisions place less of an administrative and economic burden on the mining industry as compared with Alternative 2.~~ Suggest deleting--the focus of the proposed rulemaking appears to be on making coal mining more protective of the environment rather than on making sure that mining can be conducted with minimal administrative and economic burden.	Yes - Duplicative	Same as above
4.0.2	4-2	15 - 18	Alternative 4 is comprised of provisions or approaches that are protective of natural resources but to a lesser degree when compared with those under Alternatives 2 and 3. ~~Alternative 4's provisions place less of an administrative and economic burden on the mining industry as compared to Alternative 2 and 3.~~ Suggest deleting--the focus of the proposed rulemaking appears to be on making coal mining more protective of the	Yes - Duplicative	Same as above

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			environment rather than on making sure that mining can be conducted with minimal administrative and economic burden.		
4.0.2	4-2	24-26	Should mention DOI regs here--43 CFR 46.420 45.405	Maybe	Verify applicability.
4.0.3	4-2	29-33	Why does the DEIS take this approach, when the proposed rulemaking focuses on regulatory changes to improve balance between environmental protection and the Nation's need for coal (first paragraph in preamble to proposed rule). Suggest deleting this section at this location and include in the methodology for the socio-economic impacts (which presumably would focus on economic impacts and such)	Yes	The methodology (4.7) needs to brought to the front of Chapter 4, not placed at the end.
4.0.3	4-3	2-9	I believe this chapter should be examining the environmental consequences of each alternative--and should not begin to compare/contract the alternatives to one another.	Yes	The presentation of repeatedly comparing the alternative to each other is confusing. Substantially more discussion of environmental consequences needs to be discussed.
4.0.3	4-3	10-22	I do not believe this message comes through in the preamble to the proposed rule--cross check this statement so that the proposed rule and DEIS contain the same assumptions	Yes	The 2 documents have poor alignment.
4.0.4	4-4	1-2	Need to provide rationale about why other geological issues are not being addressed.	Yes	Provide greater detail.
4.0.4	4-4	9-11	The premable to the draft proposed rule does contain what appear to be measures to help improve/maintain soils. The preamble and the DEIS should be examined to make sure they are consistent because as drafted the DEIS may undercut the protections identified in the proposed rule the agency believes may be improved via a rulemaking.	Yes	Make sure the rule and EIS are in alignment.
4.0.4	4-4	25-31	Is it possible that addition of buffers to streams and the addition of other protective mechanisms might benefit the protection and assessment of paleo and cultural resources?	Yes	The EIS could indicate that greater protection to Stream Protection Zones would result in greater protection to these resources too.
4.0.5	4-4	36	Shouldn't this section be contained in the socioeconomic analysis?	Yes and No.	In both is not inappropriate.
4.4.1	4-160	9	Odd to have an action be a category of environmental impacts.	Comment noted	
4.4.1	4-160	10	Is it "may be" or is it the least protective?	Yes	Should include perhaps that in some instances the level of protection provided may be

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					subjective.
4.4.1.1	4-161	1	If water "elements" are part of the proposed action (which appears to be the case from the preamble to the proposed rule), this heading is incorrect. Suggest restyling the resource groupings for the analysis of environmental consequences.	Maybe	This largely depends on how well the "elements" are explained and justified as grouped.
4.4.1.1	4-161	2-26	Suggest deleting much of the language in this section. It seems to recite what the proposed alternative includes, and presumably that language and description would be contained early in the DEIS and would perhaps be summarized in the beginning of chapter 4.	No	Provides helpful detail.
4.4.1.1	4-161	27	~~This stream definition~~ would provide protection not only to what the layman would imagine a stream to be, but ... Begin this sentence with "Alternative 4"	Yes	Improves readability.
4.4.1.1	4-161	30-33	~~This alternative would also implement the 1983 SBZ Rule (as interpreted by OSM) which would allow excess spoil fills, and allow mining activities so long as those activities will not cause or contribute to a violation of water quality standards.~~ Again, I presume the alternative is already described--this section of the DEIS is to evaluate the environmental impacts of the alternative.	No	
4.4.1.1	4-162	1	add in "<u>under this Alternative</u>?" " ... watershed, surface mining methods could be reduced ^ in regions where there are high stream ..."	Yes	Improves readability
4.4.1.1	4-162	9	Suggest that no comparison to other alternatives occur until the environmental impacts of alternative 4 are fully described. As drafted, it is difficult to ascertain what the impacts are, and adding other alternatives to the examination poses more confusion at this point in the DEIS.	Yes	This is a good comment. The repeated comparison between the alternatives throughout the document is confusing.
4.4.1.2	4-162	11	Again, odd to have a proposed action be a category--	Comment noted	
4.4.1.2	4-162	12-15	The rationale for this observation needs to be provided.	Yes	Statements need to be supported.
4.4.1.3	4-162	20	It would appear this determination would undercut the underpinnings of the proposed rulemaking. How would these activities not provide a benefit? It might be easier to examine this question should various resource categories be established and the evaluation of alternative under that framework.	No	That might be the case if this alternative were the preferred alternative.
4.4.1.3	4-162	25	"These elements will likely have no positive effect above what	Yes	The statement deserves to be

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			the No Action Alternative provides." Why - provide explanation?		further explained.
4.4.1.3	4-162	29	The methodology behind development of this table should be clear in the record for this DEIS. It seems production impacts should be contained in the socioeconomic section, and perhaps other environmental categories to the extent that final production can be a proxy for environmental impacts.	Yes	Support of conclusions have not be made.
4.4.1.3	4-163	5 - 6	~~The Water Elements related to fills under~~ Alternative #4 would not significantly affect ... But below it is stated there may be a slightly negative impact or no impact on topography--suggest retaining the later findings, and delete this one.	Yes	Readability
4.4.1.3	4-163	20	is it the "proposed" definition of material damage?	Yes	Identify which definition is being used. Alternative 4?
4.4.1.3	4-163	24	"Affected acreages are not expected to shift significantly in other regions ..." Explain why this is the case, very briefly, and refer the reader where they can learn about that analysis.	Yes	Support the conclusion.
4.4.2.2	4-164	17	It might be nice to refer to Alternative 1 as Alternative 1-No Action, so the reader knows that the environmental consequences of the alternative currently being analyzed is being assessed against the No Action (which is entirely appropriate).	Yes	Good comment. Ought to improve reader understanding.
4.4.2.2	4-164	18	Is this "element" really this "alternative."	Yes	Clarify whether "element" (land elements) is the intended word or this "alternative" (alternative 4)
4.4.2.2	4-164	21	Is this "element" really this "alternative."	Yes	Same comment.
4.4.2.2	4-164	23	This statement is not supported by the discussed provided above--it seems there might be a negative impact? All conclusions must be supported by the analysis and the record.	Yes	Conclusion is contradicted by preceding discussion, ".... Would not be as beneficial as Alt 1 ... "
4.4.3.1	4-164	26	Splitting the Alternative into land and water is extremely confusing in the following sections. The DEIS should evaluate the alternative as a whole, in the context of a resource area (water, air, soil, et al). Breaking up the action for purposes of this analyses could cause internal inconsistency within the alternative, and amongst all the alternatives. As a practical matter, it appears the analyses are the same for both "land" and "water" elements, although that would have to cross-	No	Split is appropriate although it does need to be consistent between alternatives and within chapter 3. The purpose and intent of the split and grouping within the split needs to be better explained.

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			checked.		
4.4.3.1.1.1	4-164	29	"Under Alternative 4, there would be a net national increase in coal production of 0.6%." Refer the reader where the analysis for this point occurs in the DEIS.	Yes	Statement needs to be supported.
4.4.3.1.1.1	4-164	32 -35	Refer the reader to where the percent change analysis for this point occurs in the DEIS.	Yes	Statement needs to be supported
4.4.3.1.1.1	4-164	37-38	But sometimes modest increases in water use can impact an area--suggest providing an explanation to support this point.	Yes	Provide better explanation
4.4.3.1.1.1	4-165	6	Assume from the context of this statement the USGS study cited refers to all the Regions that are addressed in the DEIS.	Yes	Good comment. Does the USGS data correlate to 7 coal regions?
4.4.3.1.1.1	4-165	21	"... Alternative 1 ~~but less so than Alternative 2~~. Lastly, corrective action thresholds would be ..."	Yes	Comparison to Alt 2 is not needed.
4.4.3.1.1.1	4-165	25-26	"On a national scale, water quality impacts, based solely on coal production, would be nearly the same as those under Alternative 1." because...[explain a bit of the rationale about this point].	Yes	Statement needs to be supported.
4.4.3.1.1.1	4-165	33	"~~Regulatory elements under~~ this alternative may affect drinking water quality. The collection of ..."	Yes	Unclear what is meant by regulatory elements.
4.4.3.1.1.1	4-165	40	"... Alternative ~~1 but less so than Alternative 2~~."	Yes	Comparison to Alt 2 is not needed.
4.4.3.1.1.2	4-166	1	Should indicate that Alternative 4 "is predicted to have"	Yes	Add language to the first sentence.
4.4.3.1.1.2	4-166	1-2	"... compared to Alternative 1 ~~and is nearly the same as Alternative 3.~~ The 0.6% ... "	Yes	Comparison to Alt 3 is not needed.
4.4.3.1.1.2	4-166	8 - 10	Provide cites for the point made in the sentence.	Yes	Statement needs to be supported.
4.4.3.1.1.2	4-166	15	"The most significant provision in ~~the water elements of~~ Alternative 4 is the allowance of mining ..."	Yes	Unnecessary verbiage.
4.4.3.1.1.2	4-166	26	"... surface mining in the Northern Rocky Mountains and Great Plains indicates ~~the belief~~ that ..."	Yes	Unnecessary verbiage.
4.4.3.1.1.2	4-166	25-27	Provide cites. (for the statement in this sentence)	Yes	Without a citation, there is no support for this assertion.
4.4.3.1.1.2	4-166	28-30	"It may be difficult to meet the material damage definition of rebuttable presumption based on a percentage of stream miles that are or may be adversely affected when considering the current database of impaired streams in the Appalachian	Yes	Introduces some new terminology and concepts that, without explanation, limit understand of the statement.

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			Basin. " ' Suggest restyling the first sentence. As drafted, it is confusing, and it is unclear what is being stated.		
4.4.3.1.1.2	4-166	34-36	"The shift in surface mining from the Appalachian Basin, Illinois Basin, and Colorado Plateau to the Northern Rocky Mountains and Great Plains would be an overall reduction in length of stream affected." Should this sentence indicate that the shift will "result in" overall reduction?	Yes	Better language.
4.4.3.1.1.2	4-166	36 - 37	"A 5% increase in Northern Rocky Mountains and Great Plains surface coal production would increase affected stream length by approximately 0.8 miles annually." Cite to the source this number is derived from.	Yes	Statement needs to be supported.
4.4.3.1.1.3	4-167	4-5	Excellent to cross reference but include reference to a specific section of DEIS.	Yes	Good comment.
4.4.3.1.1.3	4-167	14	the No Action Alternative~~, similar to but less than under Alternatives 2 and 3~~.	Yes	Comparison to Alt 2 and 3 is not needed.
4.4.3.1.1.3	4-167	15-16	"Within the Colorado Plateau, Alternative 4 is predicted to result in only minor changes compared with the Alternative 1." Include the rationale here.	Yes	Statement needs to be supported.
4.4.3.1.1.3	4-168	1-2	"Similar to the discussion under Alternative 2, groundwater impacts would be expected to increase under this alternative but could be considered to be relatively temporary." Explain this notion in some detail.	Yes	Statement needs to be supported.
4.4.3.1.1.3	4-168	3-5	"Under this alternative, mining production in the Northwest region is anticipated to be reduced by approximately 75%. Thus, groundwater impacts under this alternative would be less than for the No Action Alternative; however, they are already relatively insignificant." Because? [provide rationale]	Yes	Statement needs to be supported.
4.4.3.1.2.1	4-168	13-16	"... (4) Mining Through Streams, and (5) Corrective Action Thresholds~~)~~. For Alternative 4, potential water quality impacts ~~will be~~ evaluated based on the predicted percentage change in coal production compared with Alternative 1 (see	Yes	Rewrite for clarity

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			Table 4.2.3-5)." Some deletions. Should this be "are evaluated" This method is used for Alternative 4--the language suggests another method is used for the other alternatives. This language should be clarified to make the intent clear.		
4.4.3.1.2.1	4-168	18-19	"On a regional scale, predicted changes to underground, surface, and total coal production also are predicted to be small (generally less than 5%)." But additional detail is provided about the increase/decrease in coal production in the various regions. Will this alternative result in some negative impacts in some regions, but perhaps improve water quality impacts in others? More detail is needed in this section.	Yes	Statement needs to be supported.
4.4.3.1.2.1	4-168	21-22	"Therefore, on both a national and a regional scale, impacts to surface water quality are expected to be similar to those under Alternative 1." Id. previous comment--it seems as though some regions will see an increase in mining--might water quality be impacted? Conversely, might water quality improve in some regions?	Yes	Statement needs to be supported.
4.4.3.1.2.2	4-168	24-26	"As for surface water, impacts to groundwater quality under Alternative 4 are likely to be similar to those occurring under Alternative 1 (No Action) because coal production under Alternative 4 is predicted to be similar to current production levels." This discussion needs additional rationale, given the fact coal production is expected to increase/decrease in various regions.	Yes	Statement needs to be supported. This statement seems to presume that all regions are otherwise equal, which they are not.
4.4.3.2.1.1	4-168	30	Start the sentence with ... "With respect to Alternative 4, the setting of fill optimization policies based on topography and other site-specific issues may ..."	Yes	Add language.
4.4.3.2.1.1	4-168	34	Where does this number (10%) come from--provide cites. This number is confusing because the numbers in 4.4.3.1.2.1 suggest the numbers are different.	Yes	Reconcile differences.
4.4.3.2.1.1	4-168	35-37	"Since fills are predominantly used in Kentucky and West Virginia, such fill reduction would primarily affect hydrology in these areas of the Appalachian Basin." Would this be a positive or negative impact?	Yes	Qualify statement.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
4.4.3.2.2	4-169	18	Please see all the comments made above--the language is the same as that provided above for the "water element."	No	Organization is fine, but it does need to be better explained.
4.4.3.3.1.2	4-170	11-15	Is this analyses adequate given the different type of habitats and natural resources that exist in the various regions throughout the United States?	Yes	Add explanation is needed. Statement appears far too broad to be consistent over all the regions.
4.4.3.3.1.2	4-170	11-15	Because? [provide rationale}	Yes	Statement needs to be supported.
4.4.3.3.1.2	4-170	17-21	What about impacts in the other regions?	Yes	Statement needs to be supported.
4.4.3.3.2.1	4-170	23	See comments made above in the chemical impacts, surface water quality section.	No	
4.4.3.3.2.1	4-170	32-36	Why?	Yes	Statement needs to be supported.
4.4.3.3.2.2	4-171	2-4	Why?	Yes	Statement needs to be supported.
4.4.4	4-171	5	Does the DEIS contain a general description of the habitat types that occur in the various Regions? The analysis seems to assume the terrestrial and aquatic habitat in all regions is similar (by identifying no differences in the regions).	Yes	Chapter 3 should in part provide this answer.
4.4.4.1	4-171	7-8	Should the assumptions also include surface water quality and quantity impacts, given the discussion above?	Yes	Good Comment. Should they?
4.4.4.1	4-171	11	But wetlands would, right? should that be stated here, given previous discussions about waters of the United States?	Yes	Provide explanation.
4.4.4.1	4-171	12-13	"Approximately 106 additional miles of perennial and/or intermittent streams would be affected each year by new coal mining operations (Table 4.4.5-1)." Is this in all regions?	Yes	Clarify.
4.4.4.1	4-171	17	What is the basis for the 5%? This will need to be explained and supported by the record.	Yes	Statement needs to be supported.
4.4.4.1	4-171	21-27	Include source for this information.	Yes	Statement needs to be supported.
4.4.4.1	4-172	12-17	But would the resources be protected under Alternative 4? If not, that should be stated here	Yes	Clarify.
4.4.4.1	4-172	15-17	" ...wetlands would not be afforded direct protection but would still be considered wildlife habitat ~~under NEPA; therefore impacts to these would need to be avoided and minimized to the greatest extent practical~~."	No	Unclear about the purpose of the suggested deletions.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
4.4.4.1	4-173	1	Perhaps state "Alternative 4 includes the adoption" instead of "would result in the adoption."	Yes	Improved language.
4.4.4.1	4-173	7	Add --- Under Alternative 4 fish and wildlife habitat protection ..."	Yes	Add language
4.4.4.2	4-174	1-7	The analysis of impacts to terrestrial and aquatic resources contains no detail about the type of habitat types that occur in the various regions. Given the majority of adverse impacts will occur in the Appalachian Region, should any additional analysis be included about the habitat types that occur there?	Yes	Correct observation. Those shortcomings need to be addressed. A reference back to Chapter 3 would help, but impacts need more detail.
4.4.5	4-174	31-33	Alternative 4 would result in changes to the requirements for obtaining a permit and for mining operations under SMCRA. Most of these changes are more restrictive than Alternative 1, ~~but not as restrictive at Alternative 2~~. Explain what the differences are?	Yes	Reference to alternatives other than No action is confusing. Explanation of how permit would be more difficult should be provided.
4.4.5	4-175	1-2	The DEIS should discuss visual impacts due to subsurface mining--even if it means stating the obvious.	Yes	Brief visual impact description would seem appropriate.
4.4.5	4-175	5-6	As previously described in Section 4.1.5, there are no changes to ~~SMCRA~~ under this alternative that would directly affect visual resources.	Yes	This is a discussion of alternative 4, not SMCRASo
4.4.5.1	4-175	8-12	Delete the last sentence in this paragraph. What impacts will Alternative 4 have on recreation?	Yes	Statement needs support.
4.4.5.2	4-175 4-176	24-25 1	"Fill optimization policies and exceptions from AOC requirements would be implemented by regulatory authorities. Since fills mainly apply to the Appalachian Basin, ~~the land element considerations under~~ this alternative would primarily affect the Appalachian Basin and ..."	No	
4.4.5.2	4-176	15	Who does this "documentation" and should it be detailed in a bit more detail in the DEIS?	No	BLM does the documentation.
4.4.5.2	4-176	16	Has the agency done an assessment about this topic (prevention/minimization of visual impacts?). The record will need to support this determination.	Yes	Should be looked into further. While visual impacts are not regulated by SMCRA, they need to be discussed in more detail in the EIS. Provide information supporting conclusions.
4.4.5.3	4-176	27	Where do these landscapes occur--what regions?	Yes	If this is true of all 7 coal regions, the EIS should indicated that and why. Provide source which documents the importance of habitat diversity to diversity of wildlife.

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
4.4.6	4-177	4-6	Implementation of Alternative 4 would result in some adverse socioeconomic effects in local areas in certain coal-producing regions~~, though less than all other alternatives, excluding Alternative 1, the No Action Alternative~~.	Yes and No.	Comparison should be to Alternative 1.
4.4.6.1	4-177	14	The detail about economic is significantly more detailed than discussion about other resource areas. While detail is good, the agency should examine the DEIS, as a whole, to determine whether other analyses are in need of more detail, or if the detail in this section can be made less significant.	Yes	EXTREMELY important comment about the entire EIS.
4.4.6.1.1.1	4-177	30	The DEIS should describe the source of the information summarized in the Table (4.4.6-1).	Yes	Table needs support.
4.4.6.3	4-184	1.2	This is not the correct standard for evaluation of Environmental Justice per Executive Order 12898 and DOI's guidance on the topic (which appears to be dated May 30, 1995)	Yes	Please verify what is the appropriate standards for EJ and use them.
4.4.6.4.2.2	4-188	16-17	It might be helpful to identify the river--it is hard to imagine where in Utah coal is barged.	No	Source of information is provided, that should be sufficient.
4.4.6.4.2.3	4-190	21-22	"Wyoming relies almost exclusively on truck" 22 transit of coal. Doesn't Wyoming use rail for some of its coal?	Yes	An amazing statement within the EIS!

Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Comment Form

Title of Document	PDEIS Chapter 4 – First Working Draft
Contact Information	
Name	Christy Johnson-Hughes
Telephone Number	703-358-1922
Email	Christy_Johnsonhughes@fws.gov

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
4.1.4.1	4-34		Add a section that discusses specific conductivity in greater detail. It is a big problem in Appalachian streams and can affect aquatic species composition significantly.	No	Already discussed on page 4-32, lines 30-34
4.2.1	4-75	12	Please define "sterilize;" it is frequently used, and there is a common understanding of the term, but it would be helpful to define it in the EIS.	No	Duplicative. Accepted and addressed in another comment
4.2.1	4-75, 76		Explain in more detail about the potential decrease in operations based on stream densities. Is this the case for all coal regions? Or does it vary by region? Is the difference significant?	Yes	Please explain to the reader what is meant by the term "stream densities," and clarify for the reader as to why there would or would not be measureable / reportable regional differences in the impact.
4.2.1.3	4-79		Include a brief overview of the methodology used to determine impacts to coal product from baseline in this section. Or move 4.7.1 to earlier in the document.	No	Duplicative. Accepted and addressed in another comment (addressed by moving Methodology to the front of Chap 4.)
4.3.3.1.1.1	4-126	37	Please explain in more detail what is meant by corrective action thresholds. How will they be set	Yes (in part)	The comment is accepted but is more

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			and by whom? Also, explain what type of corrective actions may be taken and when.		appropriate for inclusion in Chap. 2 discussion of this element. Please see that Chapter 2 includes a discussion of what this term means, who will set the material damage and associated corrective action thresholds, the associated monitoring of water quality that will be required by the permittee and the RA, etc.
4.5.3.1.1.2	4-201	1	Define corrective action thresholds.	No	Corrective action thresholds will be permit specific and as such, can not be defined in this document.
Table 4.5.8-3	4-240		Concur with Alt 2 findings. Do not concur with Alt 4 findings. If Alt 4 is the least protective, then moderate positive may be optimistic. Alt 2 and Alt 5 should not have the same findings given that Alt 5 is not as protective as Alt 2.	Yes (in part)	Don't agree with need to change the use of the words, high, moderate, etc. However, do recommend that revise the wording in the "future" box for alternatives 2-5 to denote the alternative that shows the greatest reduction, the least reduction, and where the other two alternatives fall within that range.
4.5.8.3.5	4-244		Effects to federally-listed species should be discussed in all the alternatives and in more detail. In particular, Alt 4 is likely to result in adverse effects to listed species and Alt 5 may result in adverse effects to listed species. This discussion	Yes	Each alternative should include an evaluation of impacts to special status species.

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			should not be condensed into the cumulative effects section only.		
General			As per section 1502.14 and 1502.16 of CEQ's NEPA Regs, please include a description of any mitigation measures considered and how they may affect the alternatives, particularly Alt 5.	No	Mitigation is a permit specific issue. In the context believed to be presented by the commenter, mitigative actions are by their very nature, typically incorporated into the language of the proposed permit appllication. A review of the draft proposed rule finds only two passing references to mitigation and is soliciting comment from the public as to whether the SMCRA RA should be able to consider CWA-required mitigation as satisfying the proposed SMCRA requirement when mandatory offsite enhancement measures are required.
General			As per section 1502.16, please include more discussion on how Alt 5 may affect 404 permit decisions, watershed protection efforts, and landscape conservation initiatives.	No	In section 4.7.1.1, one of the major assumptions is that the impact analysis does not consider current trends of the CWA permitting processes.

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Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition

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Comment Form

Title of Document	Wyoming Comments
Contact Information	
Name	
Telephone Number	
Email	

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
4.5.1	4-195	14-17	The provision that would not allow "material damage to the hydrologic balance" at *any time during the operation and mitigation or remediation would not be allowed* if the potential for material damage was demonstrated in the permit application would have significant impacts of coal mining in Wyoming. The material damage criteria are applied to both surface and groundwater in our state. In western reclamation, a backfill aquifer is developed and early in its maturation the dissolved solids concentration is often elevated above standards. However, over time those elevated concentrations decrease. This is a process that is documented in scientific research and by monitoring data collected over 25 years.	Yes	The comment is in part due to the incomplete description of the provisions of material damage. Chapter 4 language does not clearly describe material damage provisions apply only to impacts to the hydrologic balance *outside the permit area.* The provisions of material damage to the hydrologic balance will be better defined prior to finalization. OSM recognizes that there will immediate surface water and groundwater impacts to water quantity and quality during mining and through reclamation within the permit. As the current regulations require; impacts to the hydrologic balance within the permit and adjacent areas will be minimized. No definition of minimization of impacts to the hydrologic impacts within the permit area and adjacent areas is proposed.

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			Impact of this approach by OSM is SIGNIFICANT and revision is needed. The recommendation is to leave the definition of material damage to individual programs.		The proposed rule The proposed definition will not prescribe criteria that define material damage to the hydrologic balance outside the permit area. The proposed definition will only require that material damage criteria is clearly defined by individual programs and is consistent with provisions of the CWA and State regulation with respect to suitable water quantity and water quality. Where CWA and State provisions do not establish regulations with respect to suitable water quantity and water quality; baseline or pre-mine water quantity and quality data would be utilized in establishing acceptable material damage criteria.
General			**Throughout the document: Shift of coal production and lack of analysis of impact to electric consumers** The underlying assumption appears to be that any regulations will simply shift coal production from region to region. The document (p 4-198 and in other places) indicates that the "Northern Rocky Mountains and Great Plains", the region that includes Wyoming, will see a 15	No	There are many 'unknowns' that will ultimately affect the economics of coal extraction. OSM believes that the methodology as described in section 4.7 where 'shifts' in coal production are predicted as a function of production deficits being wholly absorbed by enhanced coal production (underground and surface) in other regions in order to satisfy a representative static coal energy demand is an acceptable approach. Within the scope of

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			percent increase in coal production. However, the underlying assumption that coal demand will simply transfer from one area to another is flawed. First, the markets for coal in different parts of the US are not interchangeable. Second, anything that increases the price of coal makes natural gas a stronger competitor for many electrical production markets. Therefore, increased regulation has the potential to move the energy demand from coal to natural gas, not necessarily to other coal regions. Consequently, the analysis of this issue should include the potential drop in coal production due to price increases from these regulations. Such a price increase could make natural gas a more competitive fuel especially for electrical generation. The economic impact on the electric consumer should be addressed in this national programmatic EIS. A new comprehensive analysis and major revision is needed.		this EIS an exhaustive analysis that accounts for all possible influences in all regions that may or may not affect the economics of coal extraction is not possible. The intent is to develop a methodology that can be used to evaluate the relative predicted impacts of proposed provisions to coal production across the nation under all alternatives. OSM will provide better documentation of all assumptions used in the methodology presented in section 4.7.
General			**Throughout the document: The statement that a 1.7% net national coal**	Yes	OSM will provide better documentation of all assumptions used in the

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
			production increase (P 4-199 and in other places in the document) will result from these new regulations. The basis for this result needs to be supported in detail by hard analysis of the markets for coal, not by some simple division of coal production and BTUs. A new comprehensive analysis and major revision is needed.		methodology presented in section 4.7. Within the scope of this EIS an exhaustive analysis that accounts for all possible influences in all regions that may or may not affect the economics of coal extraction is not possible. The intent is to develop a methodology that can be used to evaluate the relative predicted impacts of proposed provisions to coal production across the nation under all alternatives.

Comment Form

Title of Document	PDEIS Chapter 4
Contact Information	
Name	Randall Johnson
Telephone Number	205-221-4130
Email	Randy.Johnson@asmc.alabama.gov

Section	Page #s	Line #s	Comment	Incorporate (Yes/No)	Proposed Disposition
4.5.3.1.1.1	4-199	36	Sentence incorrectly states that mining through intermittent and ephemeral streams would be prohibited. Should read "intermittent and perennial streams"	No	Duplicative. Accepted and addressed in another comment
4.5.3.2.2.1	4-205	9	Correct spelling of the word "grea(" to "great"	No	Duplicative. Accepted and addressed in another comment
4.5.3.3.1.1	4-205	34-36	The sentence beginning with "The" and ending with "exclusion" makes no sense.	No	Duplicative. Accepted and addressed in another comment
4.5.4.2	4-209	30-32	The final sentence in this paragraph is erroneous. Even though AOC will not be required in some cases, grading with heavy equipment will be required to some extent to achieve the post –mining land use.	Yes	Similar to comment 4.5.4.2 / pg. 4-209 / lines 27-32. Please reconcile these two comments simultaneously. The point being made is that regardless of whether AOC variance is granted or not, heavy equipment is used to reclaim the site.
4.5	All	All	General comment.:In the southern Appalachian coal fields such as Alabama, the FRA approach has not been tested fully. Much of these areas are in southern pine forest as well. The FRA has not been demonstrated successful in our state in restoring hardwood or pine forest. Many of the assumptions related to the FRA in southern Appalachia have no basis.	No	The comment is germane to the proposed rule language and should be made when the proposed rule language is made available for comment.
4.5.6.1	4-213-4-218	All	The predicted consequences in rise of unemployment rates and poverty levels; declines in personal incomes, tax income, and royalties for Appalachian states in particular point out that this proposed alternative (as well as alt. 2-4) points out the unconscionable disregard for human impacts that this proposed rulemaking exhibits. Most states and local governments are suffering from the current economic downturn. Especially hard hit are the states that will suffer the	No	Comment noted. A NEPA document is intended to evaluate impacts of alternatives. The commenter is essentially saying the rule should not go forward and the most appropriate venue for making that type comment is on the rule when it is proposed

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			most from the rule changes. At a time when this administration is attempting to create jobs and stimulate the economy, this proposed action is simply wrong.		and available for public comment.
4.7	4-249-4-260	All	The analysis of change in coal production is flawed in a significant area. All of the estimates seem to assume that all coal production is used for electricity generation. In Alabama most if not all underground mine production is metallurgical grade coal. A significant amount of surface coal mine production is also metallurgical coal. Most is sold overseas. Little if any of this production can be offset by production in western states that do no have metallurgical coal. An analysis of metallurgical grade coal production losses due to the proposed rule changes should be a part of the EIS. A completely different analysis is necessary from that for steam coal.	No	Duplicative. Accepted and addressed in another comment.

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Note: The Incorporate (Yes/No) and Proposed Disposition columns will be completed by the originating office.

Response to Hastings April 1, 2011, Request for Documents - Item #3					
NAME	ORGANIZATION	TITLE	TELEPHONE NUMBER	MAILING INFORMATION	DATE RECEIVED
Alex Birchfield	OSM	Ecologist	303-293-5064	abirchfield@osmre.gov	Chapter 2, 1/13 2011; Chapter 3, 10/25/ 2010; Chapter 4, 1/13/2011
Amy McGregor	OSM	Soil Scientist	303-293-5040	amcgregor@osmre.gov	Chapter 3, 10/25/2010; Chapter 4, 1/13/2011
Andrew DeVito	OSM	Federal Register Liaison Officer	202-208-2701	adevito@osmre.gov	Chapter 4, 1/13/2011
Arthur R. Kleven	Office of the Solicitor, DOI	Attorney-Advisor	303-231-5353 x334	art.kleven@sol.doi.gov	Chapter 2, 1/20/2011; Chapter 4, 1/18/2011
Bill Brancard	State of New Mexico	General Counsel	505-476-321	bill.brancard@state.nm.us	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/25/2010 ; Chapter 4, email notice of SharePoint posting 1/10/2011
Bill Winters	OSM	Branch Chief, Knoxville Field Office	865-545-4103, ext 170	bwinters@osmre.gov	Chapter 1, 9/15/2010; Chapter 2, 10/5/2010; Chapter 3, 10/25/2010; Chapter 4, 1/10/2011
Bradley C. Lambert	State of Virginia	Deputy Director Virginia Department of Mines, Minerals and Energy	276-523-8100	butch.lambert@dmme.virginia.gov	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/25/2010; Chapter 4, email notice of SharePoint posting 1/10/2011

Brent Heavilin	Ohio DNR	Natural Resources Administrator 3, Coal Permitting Manger	740-439-9079	brent.heavilin@dnr.state.oh.us	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/25/2010; Chapter 4, email notice of SharePoint posting 1/10/2011
Brent Means	OSM	Hydrologist	717-782-4036	bmeans@osmre.gov	Chapter 2, 10/15/2010; Chapter 3, 10/25/2010 (except Section 3.6, Section 3.19, and Section 3.19, 10/28/2010; Chapter 3 Section 3.6, 11/2/2010); Chapter 4, 1/13/2011, Chapter 5, 2/22/2011
Brian Loges	OSM	Ecologist	No longer employed by OSM	No longer employed by OSM	Chapter 3, 10/25/2010
Bruce Stevens	Indiana DNR	Director – Division of Reclamation	812-665-2207	bstevens@dnr.IN.gov	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/25/2010; Chapter 4, email notice of SharePoint posting 1/10/2011
Charles Gault	Office of the Solicitor, DOI	Attorney-Advisor	865-545-4315 x21	charles.gault@sol.doi.gov	Chapter 1 and 2, 10/5/2010; Chapter 4, 1/24 2011

Cheryl A. Sylvester	Office of the Solicitor, DOI	Attorney-Advisor	202-208-7039	cheryl.sylvester@sol.doi.gov	Chapter 1, 8/11/ 2010; Chapter 2, 10/5/2010; Chapter 3, 10/25/2010 and 10/26/2010; Section 3.6 on 10/2/2010; Chapter 4, 1/12/2011; Draft PDEIS – 2/25/2011
Chris Yde	Montana Department of Environmental Quality	Supervisor, Coal and Uranium Program	406-444-4967	cyde@mt.gov	Chapter 1, 10/5/2010; Chapter 2, 10/5/2010; Chapter 3, 10/25/2010; Revised Chapter 3, 10/262010; Chapter 3.19, 10/28/ 2010; Chapter 3.6, 11/2/2010; Chapter 4, 1/13/2011 – available on SharePoint site
Christy Johnson-Hughes	FWS	Biologist/National Energy Coordinator	703-358-1922	christy_johnsonhughes@fws.gov	Chapter 1, 6/4/2010; Chapter 2, 10/6/2010; Chapter 3, 10/25/2010, 10/26/2010, and 11/2/2010; Chapter 4, 1/12/2011
Courtney Shea	Office of the Solicitor, DOI	Supervisory Attorney Advisor	865-545-4315 x20	courtney.shea@sol.doi.gov	Chapter 1 and 2, 10/5/ 2010; Chapter 4, 1/24/ 2011
Craig Walker	OSM	Ecologist	865-545-4103 ext. 168	cwalker@osmre.gov	Chapter 4, 1/8/2011
Dale Herbort	OSM	AML Program Specialist	307-261-6545	dherbort@osmre.gov	Chapter 3, 10/25/2010; Chapter 4, 1/13/2011

Dana Dean	State of Utah		801-538-5320	danadean@utah.gov	Chapter 1, 10/5/2010; Chapter 2, 10/25/2010; Chapter 3 (partial initial), 10/25/2010; Chapter 3 (partial corrected), 10/26/2010; Chapter 3 (3.19 - Socioeconomics); 10/28/2010; Chapter 3 (3.6 - Surface Water), 11/2/2010; Chapter 4, 1/13/2011
Dana Jacobsen	Office of the Solicitor, DOI	Assistant Regional Solicitor	303 231 5353 x 336	Dana.Jacobsen@sol.doi.gov	Chapter 4, 1/17/2011
Dave Clark	Ohio DNR	Natural Resources Administrator IV	330-339-2207	dave.clark@dnr.state.oh.us	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/25/2010; Chapter 4, email notice of SharePoint posting 1/10/2011
David Best	OSM	Civil Engineer	Retired	Retired	Chapter 3, 10/25/2010; Chapter 4, email notice of SharePoint posting 1/10/2011
David Clark	New Mexico Mining and Minerals Division	Ecologist	505.476.3416	david.clark@state.nm.us	Chapter 1, 10/5/2010; Chapter 2, 10/5/2010; Chapter 3, 11/2/2010; Chapter 4, 1/13/2011
David E. Lane	OSM	Civil Engineer	412-297-9346	dlane@osmre.gov	Chapter 3.0 , 3.1 and 3.5 10/25/2010; Chapter 4, 1/20/2011

David Hartos	OSM	Supervisory Physical Scientist	412-937-2909	dhartos@osmre.gov	Chapter 1, 9/15/2010; Chapter 2, 10/15/2010; Chapter 3, 10/25/2010 (except Section 3.6 and Section 3.19, 10/28/2010; Section 3.6, 11/2/2010); Chapter 4, 1/13/2011; Chapter 5, 2/22/2011; Chapters 6 – 9, on or about 2/28/2011
Dawn Pacula	OSM	Natural Resources Specialist	303-293-5044	dawnpacula@osmre.gov	Chapter 3, 10/25/2010; Chapter 4, 1/12/2011
Deborah A. Dale	OSM	Hydrologist	618-463-6463 x5149	ddale@osmre.gov	Chapter 1, 8/26/2010; Chapter 2, 10/5/2010; Chapter 3, 10/25/2010; Chapter 4, 1/12/2011
Desiree Hann	US Army COE	Program Manager	202-761-4560	Desiree.L.Hann@usace.army.mil	Chapter 2, emailed 10/05/2010; Chapter 3, emailed 10/25/2010, 10/26/2010 and11/2/2010; Chapter 4 emailed notice of sharepoint posting 1/13/2011
Dennis Rice	OSM	Regulatory Analyst	202-208-2829	drice@osmre.gov	Chapter 1, 8/11/2010; Chapter 2, 11/3/2010
Dianne Shawley	OSM	Counsel to the Director	202-208-4222	dshawley@osmre.gov	Chapter 2, 10/14/2010; Chapter 3, 2/23/2011; Chapter 4, 1/13/2011

Don McKenzie	State of Wyoming	Administrator, Land Quality Division	307-777-7756	dmcken@wyo.gov	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/25/2010 ; Chapter 4, email notice of SharePoint posting 1/10/2011
Ed Coleman	State of Montana	Bureau Chief	406-444-4973	ecoleman@mt.gov	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/25/2010; Chapter 4, email notice of SharePoint posting 1/10/2011
Ellen Athas	CEQ	Senior Counsel	202-395-5750	730 Jackson Place, NW, Washington, DC 20503	Chapter 2, emailed 10/05/2010; Chapter 3, emailed 10/25/2010, 10/26/2010 and11/2/2010; Chapter 4 emailed notice of sharepoint posting 1/13/2011
Emily D. Morris	Office of the Solicitor, DOI	Attorney-Advisor	202.208.5236	Emily.Morris@sol.doi.gov	Various Times
Emily Sharp	OMB	Program Examiner	202-395-4790	Room 209, EEOB, Washington, D.C. 20503	Chapter 2, emailed 10/05/2010; Chapter 3, emailed 10/25/2010, 10/26/2010 and11/2/2010; Chapter 4 emailed notice of sharepoint posting 1/13/2011

Ervin J. Barchenger	OSM	Regional Director	618-463-6460	ebarchenger@osmre.gov	Chapter 1, 10/5/2010; Chapter 2, 10/5/2010; Chapter 3, 10/25/2010; Chapter 3, Surface Water, 11/2/2010
Ethel Eaton	Virginia Department of Historic Resources	Senior Policy Analyst	804-482-6088	ethel.eaton@dhr.virginia.gov	Chapter 1, 10/5/ 2010; Chapter 2, 10/5/2010; Chapter 3.6, 11/2/2010; Chapter 3.9-10, 10/25/2010; Chapter 3.11 - 3.14, 3-15-18, 3-20, 10/25/2010; Chapter 4, 1/13/2011
Foster Kirby	OSM	Archaeologist	303-293-5039	fkirby@osmre.gov	Chapter 3, 10/25/2010 and 10/26/2010; Chapter 4, 1/12/2011
Gail Smith	OSM	Manager, Program Support Branch	859-260-3908	gsmith@osmre.gov	Chapter 1, 8/15/2010 (approximate date); Chapter 2, 10/5/2010; Chapter 3, 10/27/2010 (approximate date); Chapter 4, 1/24/2011
Glenda Owens	OSM	Deputy Director	202-208-4006	gownes@osmre.gov	Chapter 1, 8/11/10; Chapter 2, 10/5/10; Chapter 3 some parts rec'd 10/25/10 and 10/26/10 and 11/2/10; Chapter 4 ,1/13/11

Gregory Conrad	Interstate Mining Compact Commission	Director	703-709-8654	gconrad@imcc.isa.us	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/25/2010; Chapter 4, email notice of SharePoint posting 1/10/2011
Harry Payne	OSM	Environmental Protection Specialist	412-937-2145	hpayne@osmre.gov	Chapters 1-4, 2/24/2011
James Laity	OMB	OIRA Desk Officer	202-395-4790	Room 209, EEOB, Washington, D.C. 20503	Chapter 2, emailed 10/05/2010; Chapter 3, emailed 10/25/2010, 10/26/2010 and11/2/2010; Chapter 4 emailed notice of sharepoint posting 1/13/2011
Jason R. Stoltz	OSM	Mining Engineer	859-260-3922	jstoltz@osmre.gov	Chapter 1, 8/15/2010; Chapter 2, 10/5/2010 and 11/4/2010; Chapter 3, 4, 5, 6, 7, 8, 9, 4/14/2011
Jeffrey Coker	OSM	Senior Physical Scientist	865-545-4103 ext 155	jcoker@osmre.gov	Chapter 1, 9/15/2010; Chapter 2, 10/15/2010; Chapter 3, 10/25/2010 (except Section 3.6 and Section 3.19, 10/28/10; Chapter 3 Section 3.6, 11/2/2010;) Chapter 4, 1/13/2011; Chapter 5, 2/22/2011; Chapters 6 – 9, on or about 2/28/2011

Jim O'Hara	State of New Mexico	Coal Mine Reclamation Program Manager	505-476-3413	Jim.ohara@state.nm.us	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/25/2010; Chapter 4, email notice of SharePoint posting 1/10/2011
John Baza	State of Utah	Director, Utah Division of Oil, Gas & Mining	801-538-5334	johnbaza@utah.gov	Chapter 1, 10/5/2010; Chapter 2, 10/5/2010; Chapter 3 (partial initial), 10/25/2010; Chapter 3 (partial corrected), 10/26/2010; Chapter 3 (3.19 - Socioeconomics), 10/28/2010; Chapter 3 (3.6 - Surface Water), 11/2/2010; Chapter 4, 1/13/2011
John Craynon	OSM (former)	Chief, Division of Regulatory Support	202-208-4006 (former)	Virginia Tech, Blacksburg, Va.	Chapter 1, 8/11/2010; Chapter 2, 10/5/2010; Chapter 3 some parts rec'd 10/25/2010 and 10/26/2010 and 11/2/2010; Chapter 4, 1/13/2011
John Caudle	Railroad Commission of Texas, Surface Mining and Reclamation Division	Director, Surface Mining and Reclamation Division	512-463-6901	John.caudle@rrc.state.tx.us	Chapter 1, 10/5/2010; Chapter 2, 10/5/2010; Chapter 3, 10/25/2010; Chapter3.19, 10/28/2010; Chapter 4 Table of Contents, 1/28/2010, Chapter 4, 1/13/2011

Joseph G. Pizarchik	OSM	Director	202-208-4006	jpizarchik@osmre.gov	Chapter 1, 8/11/2010; Chapter 2, 10/520/10; Chapter 3 some parts rec'd 10/25/2010 and 10/26/10 and 11/2/2010; Chapter 4, 1/13/2011
Joseph L. Blackburn	OSM	Field Office Director	859-260-3902	jblackburn@osmre.gov	Chapter 1, 7/27/2010; Chapter 2, 10/5/2010; Chapter 3, 1/27/2010; Chapter 4, 1/18/2011
Karen Jass	OSM	Mining Engineer	303-293-5037	kjass@osmre.gov	Chapter 3, 10/25/2010; Chaptesr 2 and 4, 1/13/2011
Kevin Garnett	OSM	Mining Engineer	618-463-6463 x5135	kwgarnett@osmre.gov	Chapter 1, 10/5/2010; Chapter 2, 10/5/2010; Chapter 3, 10/25/2010; Chapter 4, 1/13/2011
Kristen Guerriero	Office of the Solicitor, DOI	Attorney-Advisor	303-231-5353 ext. 552	kristen.guerriero@sol.doi.gov	Chapter 2, 1/20/2011; Chapter 4, 1/18/2011,
Larry Bright	FWS	Chief, Branch of Conservation Planning Assistance	703-358-2161	4401 N. Fairfax Drive, Room 830B, Arlington, Va. 22203	Chapter 1, 6/4/2010; Chapter 2, 10/6/2010; Chapter 3, 10/25/2010, 10/26/2010, and 11/2/2010; Chapter 4, 1/12/2011
Lauren Leuck	US Army COE (formerly CEQ)	Environmental Planner	703-428-8015	Lauren.D.Leuck@usace.army.mi	Chapter 2, emailed 10/05/2010; Chapter 3, emailed 10/25/2010, 10/26/2010 and11/2/2010; Chapter 4 emailed notice of sharepoint posting 1/13/2011

Lawrence Emmons	OSM	Soil Scientist	618-463-6460	lemmons@osmre.gov	Chapter 3, 10/26/2010; Chapters 2 and 4, 1/13/2011
Leslie S. Vincent	State of Virginia	Manager	276-523-8156	les.vincent@dmme.virginia.gov	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/25/2010; Chapter 4, email notice of SharePoint posting 1/10/2011
Lewis Halstead	West Virginia DEP	Deputy Director	304-926-0499 x1525	lewis.a.halstead@wv.gov	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/25/2010; Chapter 4. email notice of SharePoint posting 1/10/2011
Lois Uranowski	OSM	Chief, Branch of Ecological Services and Technology Transfer	412 937 2805	luranowski@osmre.gov	Chapter 2, 10/01/2010; Chapter 3, 10/25/2010; Chapter 4, 01/13/2011
Lukas Monette	OSM	Remote Sensing Specialist	412-937-2864	lmonette@osmre.gov	Chapter 3 Resubmit 10/26/2010; Chapter 3, 10/25/ 2010; Chapter 4, 1/13/2011
Marcelo Calle	OSM	Hydrologist	303-293-5035	mcalle@osmre.gov	Chapter 1, 9/9/2010; Chapter 2 , 10/5/2010; Chapter 3, 10/25/2010; Chapter 4, 1/12/2011; Draft PDEIS, 2/25/2011
Mary Katherine Ishee	OSM	Senior Advisor to the Director	202-208-4006	mkishee@osmre.gov	Chapters 1, 2, 3 and 4, 2/2/2011

Michael Bower	OSM	Program Specialist	412-937-2857	mbower@osmre.gov	Chapter 3, 10/25/2010
Michael K. Robinson	OSM	Supervisory Physical Scientist	412-937-2882	mrobinson@osmre.gov	Chapter I, 10/7/2010; Chapter 3 (Part 1 of 6) 10/25/2010
Mike Richmond	OSM	Civil Engineer	(304)347-7162 ext 3046	mrichmond@osmre.gov	Chapter 3, 10/25/2010; Chapter 4, 1/14/2011
Mychal Yellowman	OSM	Civil Engineer	303-293-5049	myellowman@osmre.gov	Chapter 2, 10/5/2010;Chapter 3, 10/25/2010; Chapter 4, 1/13/2011
Nancy Sloanhoffer	OSM	Contract Officer	202-208-4006	nsloanhoffer@osmre.gov	Chapter 2, emailed 10/05/2010; Chapter 3, emailed 10/25/2010, 10/26/2010 and11/2/2010; Chapter 4 emailed notice of sharepoint posting 1/13/2011
Nicholas Grant	OSM	Natural Resource Specialist	618-463-6463 x 5148	ngrant@osmre.gov	Chapter 2, 11/16/2010; Chapter 3, 10/25/2010; Chapter 4, 1/13/2011
Patrice Simms	DOJ	Deputy Assistant Attorney General, Environment and Natural Resources Division	202-514-2141	950 Pennsylvania Avenue, N.W., Washington, D.C. 20530	Chapter 2, emailed 10/05/2010; Chapter 3, emailed 10/25/2010, 10/26/2010 and11/2/2010; Chapter 4 emailed notice of sharepoint posting 1/13/2011

Paul Clark	OSM	Hydrologist	303-293-5065	pclark@osmre.gov	Chapter 1, 10/5/2010; Chapter 2, 10/12/2010; Chapter 2, 11/16/2010 (revised); Chapter 3, 10/25/2010; Chapter 4, 1/24/2011, Chapters 1-3, 1/24/2011 (revised)
Paul Ehret	OSM	Chief, Technical Services Branch	618-463-6463 ex 5129	pehret@osmre.gov	Chapter 1, 9/15/2010; Chapter 2, 10/5/2010; Chapter 3, 10/25/2010; Chapter 4, 1/10/2011
Paul Rothman	Kentucky DNR	Environmental Scientist	502-564-6940 x416	paul.rothman@ky.gov	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/25/2010; Chapter 4, email notice of SharePoint posting 1/10/2011
Peter Brinton	State of Utah	Environmental Scientist	801-538-5258	peterbrinton@utah.gov	Chapter 1, 10/5/ 2010; Chapter 2, 10/5/2010; Chapter 3 (partial initial), 10/25/2010; Chapter 3 (partial corrected), 10/26/2010; Chapter 3 (3.19 - Socioeconomics), 10/28/2010; Chapter 3 (3.6 - Surface Water), 11/2/2010; Chapter 4, 1/13/2011
Peter Michael	OSM	Geologist	412-937-2867	pmichael@osmre.gov	Chapter 3, 10/22/2010; Chapter 4, 1/23/2011

Randall C. Johnson	Alabama Surface Mining Commission	Director	205-221-4130	randy.johnson@asmc.alabama.gov	Chapters 1 and 2, 10/5/2010; Chapter 3 , 10/25/2010 and 10/26/2010; Chapter 4, 1/13/2011
Rebecca O. Hatmaker	OSM	Biological Scientist	865-545-4103, ext. 148	bhatmaker@osmre.gov	Chapter 3, 10/22/2010; Chapter 4, 1/12/2011
Richard Wahrer	Kentucky DNR	Environmental Scientist	502-564-6940 x417	richard.wahrer@ky.gov	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/28/2010 and 11/2/2010; Chapter 4, email notice of SharePoint posting 1/13/2011
Robert Postle	OSM	Manager	303-293-5041	bpostle@osmre.gov	Chapter 2, 10/5/2010; Chapter 3, 10/25/2010; Chapter 4, 1/12/2011
Russ Hunter	State of West Virginia	Manager	304-926-0499 x1537	Russ.M.Hunter@wv.gov	Chapter 1, emailed 10/5/2010; Chapter 2, emailed 10/5/2010; Chapter 3, emailed 10/25/2010; Chapter 4, email notice of SharePoint posting 1/10/2011

Russell Young	DOJ	Assistant Chief, Environmental Defense Section, Environment and Natural Resources Division	202-514-2141	950 Pennsylvania Avenue, N.W., Washington, D.C. 20530	Chapter 2, emailed 10/05/2010; Chapter 3, emailed 10/25/2010, 10/26/2010 and11/2/2010; Chapter 4, emailed notice of sharepoint posting 1/13/2011
Stefanie Self	OSM	Civil Engineer	412-937-2105	sself@osmre.gov	Chapter 3, 10/25/2010; Chapter 4, 1/13/2011
Stephanie Reed	Railroad Commission of Texas, Surface Mining and Reclamation Division	Manager, Applications and Permits Section, Surface Mining and Reclamation Division	512-463-7243	Stephanie.reed@rrc.state.tx.us	Chapter 1, 10/5/2010; Chapter 2, 10/5/2010; Chapter 3, 10/25/2010; Chapter3.19, 10/28/2010; Chapter 4 Table of Contents, 10/28/2010, Chapter 4, 1/13/2011
Stephanie Varvell	OSM	Senior Program Analyst	859-260-3920	svarvell@osmre.gov	Chapter 1, 8/11/2010; Chapter 2, 10/4/2010; Chapter 3 Table of Contents, 8/24/10; Chapter 3 Outline, 9/24/10; Chapter 3, 10/25/10, 10/26/2010 and 11/2/2010; Ch. 4 Table of Contents 8/24/2010; Chapter 4 Outline 11/16/2010; Chapter 4, 1/12/2011
Sterling Rideout	OSM	Assistant Director	202-208-2596	srideout@osmre.gov	Chapter 2, 10/01/2010; Chapter 3, 10/25/2010; Chapter 4, 01/13/2011

Steve Barcley	Office of the Solicitor, DOI	Attorney-Advisor	412-937-4007	steve.barcley@sol.doi.gov	Chapter 1, 10/21/2010; Chapter 2, 1/19/2011 and 10/21/2010; Chapter 3, 10/26/2010, 10/25/2010 and 11/2/2010; Chapter 4, 1/14/2011
Ted Boling	Office of the Solicitor, DOI	Deputy Solicitor for Public Lands	202-208-3125	ted.boling@sol.doi.gov	Chapter 2, 10/5/2010; Chapter 3 some parts rec'd 10/25/2010, 10/26/2010 and 12/2/2010; Chapter 4, 1/13/2011
Terri L. Debin	Office of the Solicitor, DOI	Assistant Regional Solicitor, Land & Minerals	303-231-5353 ext. 335	Terri.Debin@sol.doi.gov	Chapter 2, 1/20/2011; Chapter 4, 1/18/2011
Thomas A. Bovard	Office of the Solicitor, DOI	Assistant Solicitor, BSM/DMR	202-208-5730	Tom.Bovard@sol.doi.gov	Chapter 1, 8/11/2010; Chapter 2, 10/5/2010; Chapter 3, 10/25/2010 and 10/26/2010; Chapter 3 Section 3.6, 11/2/ 2010; Chapter 4, 1/12/2011; Draft PDEIS, 2/25/2011
William L. Joseph	OSM	Chief, Program Support Division	618-463-6463 x5106	bjoseph@osmre.gov	Chapter 1, 10/5/2010; Chapter 2, 10/5/2010; Chapter 3, 1/25/2010; Chapter 4, 1/13/2011