



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF RESOURCE
CONSERVATION AND RECOVERY

September 15, 2010

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Dear Messrs. Seman and Campbell:

Thank you for your letter of June 15, 2010, to Steve Souders of my staff providing comments regarding the status of spent synthetic pit liners used in oil and gas exploration and production (E&P) operations under the Resource Conservation and Recovery Act (RCRA) E&P waste exemption from hazardous waste regulation (exemption). 40 CFR 261.4(b)(5). Your input is appreciated and was carefully evaluated as we considered a request from Earthjustice dated April 27, 2010, for an opinion from the U.S. Environmental Protection Agency (EPA or Agency) on whether the RCRA exemption extends to these pit liners. In making this determination we carefully considered all the information provided, the regulatory history, and the Agency's interpretation of Congress' intent when they temporarily exempted drilling fluids, produced water, and other wastes associated with E&P operations from hazardous waste regulation. As a result we have determined that synthetic pit liners used in E&P operations are not covered by the RCRA exemption because they are not intrinsically derived from, or uniquely associated with operations associated with the exploration, development, or production of crude oil and natural gas.

EPA notes that this determination is limited to the scope of the RCRA exemption from hazardous waste regulation. While this would seem to have significant implications for determining the status of the wastes under Colorado regulations since the Colorado regulations explicitly require that the wastes be covered by the federal exemption, this letter is not a substitute for the state's interpretation of its own regulations, nor for the state's determination of the regulatory status of these wastes under state law. Moreover, EPA's determination that synthetic pit liners used in E&P operations are not covered by the RCRA exemption does not suggest that they are hazardous wastes. On the contrary, many wastes generated in E&P operations that are not covered by the exemption are not hazardous wastes. The issue EPA is addressing in the reply to the Earthjustice request, and in the responses to your comments, is whether the E&P waste in question (spent synthetic pit liners used in E&P operations) are covered under the RCRA exemption under 40 CFR 261.4(b)(5).

In your letter you provided several comments in support of your position that these liners should be covered under the E&P waste exemption. Following are our responses to your comments.

1. Pit liners are clearly "associated" with primary field operations. Reserve and other types of pits are required for most E&P operations in order to safely and efficiently extract oil and gas resources in Colorado. Moreover, pit liners are integral in order to ensure protection of public health and the environment and, in many cases, are required by COGCC operational rules.

The Agency agrees that pit liners used in E&P operations are associated with primary field operations and that the spent liners are derived from E&P operations. However, although the spent liners are derived from E&P operations, they are not covered by the E & P waste exemption. The Agency has repeatedly interpreted its regulation such that not all wastes generated by E&P operations are exempt, but rather that only wastes generated by activities "uniquely associated" with the exploration, development or production of crude oil or natural gas at primary field operations are exempt. See the "DEFINITION OF EXEMPT WASTES" section of the 1987 Report to Congress beginning on page II-16, and the "Determination of the Scope of the Temporary RCRA Exemption" section of the 1988 Regulatory Determination beginning at 53 FR 25453. For example, in the 1993 Clarification of the 1988 Regulatory Determination at 58 FR at 15286 EPA stated the following:

"One common belief is that any wastes generated by, in support of, or intended for use by the oil and gas E&P industry (including most service company wastes) are exempt. This is not the case; in fact, only wastes generated by activities uniquely associated with the exploration, development or production of crude oil or natural gas at primary field operations (i.e., wastes from down-hole or wastes that have otherwise been generated by contact with the production stream during the removal of produced water or other contaminants from the product) are exempt from regulation under RCRA Subtitle C regardless of whether they are generated on-site by a service company or by the principal operator."

In addition, EPA has consistently interpreted its regulation only to extend to those wastes studied in the Report to Congress, or otherwise identified in the 1988 Regulatory Determination or the 1993 Clarification. Pit liners are not identified as exempt wastes in any of these documents. See the "Determination of the Scope of the Temporary RCRA Exemption" section of the 1988 Regulatory Determination beginning at 53 FR 25453.

2. Pit liners are undoubtedly "intrinsically derived" from E&P operations and are therefore E&P waste. The processes that render the liners a waste are clearly intrinsic to oil and gas operations. The EPA stated in its Report to Congress that "reserve pits are an integral part of the drilling process." Further, the liners become waste due to their contact with agents that are used to facilitate E&P (e.g., drilling fluid, produced water, frac fluid, cuttings, etc.).

EPA agrees that reserve pits are an integral (i.e., important) part of drilling operations; however, they are not "intrinsic" to drilling operations. Synthetic liners are used for a variety of other applications such as municipal solid waste landfills, and industrial waste landfills and impoundments. Consequently, the synthetic pit liners used in E&P operations are not uniquely associated with E&P operations and, as such, have not historically been considered "uniquely associated" wastes. Further, tanks are an alternative to pits and are frequently employed for E&P waste containment. The Agency considers the pit liner as part of a waste containment system and analogous to a tank; and just as EPA does not consider tanks used to contain E&P waste to be covered by the RCRA exemption, the Agency does not consider synthetic pit liners to be covered by the exemption.

The Agency agrees that it stated in the 1988 Regulatory Determination that it interprets the term "other wastes associated" in the exemption to include rigwash, drill cuttings, and wastes created by agents used in facilitating the extraction, development and production of the resource. However, synthetic liners are not employed to facilitate the extraction, development and production of the resource; rather, they are employed to facilitate the containment of E&P wastes, and to prevent the potential migration of the E&P waste, and possible contaminants in the E&P waste, from the pit. Therefore, they are not covered by the exemption.

3. Numerous "virgin" materials recognized as E&P waste after certain types of use have utility in other industries and in other contexts. Amines and glycols are good examples. Other examples include water, rags, and sorbent materials.

This argument is based on a misunderstanding of the exemption. The status of the "other virgin materials" referenced in your letter is not dependent on whether they have no utility outside of the E&P industry, but on the extent to which they are necessarily associated with specific operations during the E&P process (e.g., those that facilitate the extraction, development and production of the resource). For example, the spent amines and glycols referenced in your letter are covered by the exemption only when they have been generated by contact with the natural gas production stream during the removal of produced water or other contaminants from the product. They are not generally exempt when present in wastes derived from other processes. See, e.g., EPA's 1993 clarification of the 1988 Regulatory Determination at 58 FR at 15285. Similarly, rags and sorbent materials are covered by the exemption only to the extent

they are used to clean up spills of oil or exempt wastes, which is an inherent part of E&P operations. The Agency views the use of materials such as rags and sorbents as a necessary part of the clean up of spills at E&P operations. According to the legislative history, "other wastes associated" would cover such substances as hydrocarbon bearing soil in and around E&P facilities. EPA interpreted the intent of this definition to extend to materials necessary to clean up hydrocarbon spills (e.g., rags and sorbent materials).

To address your final example, not all water used in E&P operations is covered by the exemption. For example, vacuum truck and drum rinsate from trucks and drums transporting or containing non-exempt waste are not covered by the E&P waste exemption. On the other hand, rigwash water from washing the drilling rig floor is covered by the exemption. As with the clean up of spills, the Agency has historically viewed washing drilling fluids and other materials spilled on the rig floor as a necessary part of drilling operations.

4. Close scrutiny of the EPA's listings of E&P wastes clears up potential misperceptions and affirms the conclusion that pit liners are exempt E&P waste. Items such as spent filters, filter media, cartridges, and canisters are E&P waste when used in the dehydration or gas sweetening process. The EPA considers these spent filters to be exempt E&P wastes if "the filter itself is not hazardous [i.e., not hazardous prior to contact with E&P waste] and the residue in it is from an exempt waste stream." Pit liners fall within the same class as these filters, the only difference is that the liners are generated during drilling and production as opposed to treatment or dehydration. Moreover, like the filters, the liners themselves are nonhazardous and they come in contact with substances which are universally considered exempt.

This is similar to the examples discussed in paragraph 3 above. Spent filters, filter media, cartridges, and canisters are covered by the exemption when used in the process of regenerating glycols and amines used in natural gas dehydration and sweetening processes. The Agency views the regeneration of these materials to be intrinsic to the dehydration and sweetening processes. Therefore, the spent filters, filter media, cartridges, and canisters generated as a result of these processes are covered by the RCRA exemption. As discussed previously, the Agency does not consider synthetic pit liners to be intrinsic to E&P operations.

5. If the EPA concludes that pit liners are not E&P waste in and of themselves, the EPA's mixing rules would still render pit liners an exempt E&P waste. The EPA instructs that "[m]ixing a non hazardous waste (exempt or non exempt) with an exempt waste results in a mixture that is also exempt."

As previously discussed, because the pit liners are not intrinsic to E&P operations, they are not covered by the RCRA exemption.

EPA does not consider the placement of exempt E&P waste on a non-exempt pit liner to constitute the creation of a mixture. We believe mixtures constitute a comingling or blending of two or more substances. Pit liners are not blended or comingled with the pit contents into a single substance; therefore, the mixture rule cited in your letter is not applicable to synthetic pit liners contaminated with exempt E&P wastes.

I hope this adequately addresses your comments. However, if you have questions, please contact Steve Souders of my staff by phone at 703-308-8431 or by email at souders.steve@epa.gov.

Sincerely,

A handwritten signature in cursive script, appearing to read "R. Dellinger".

Robert Dellinger, Director
Materials Recovery and Waste Management Division

cc: Mr. Stan Dempsey, Colorado Petroleum Association
Mr. Matt Lepore, Colorado Department of Law
Mr. David Neslin, Colorado Oil and Gas Conservation Commission
Mr. Joe Schiefflin, Colorado Dept. of Public Health and Environment
Mr. Steve Burkett, U.S. EPA Region VIII
Mr. Chuck Figur, U.S. EPA Region VIII

June 15, 2010

VIA FACSIMILE AND U.S. MAIL

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Re: CPA Comments Regarding Request for
Interpretive Letter Concerning Exempt
Nature of Synthetic Pit Liners as
Exploration and Production Waste

Dear Mr. Souders:

Thank you for the opportunity to provide input regarding the status of synthetic pit liners under the exploration and production ("E&P") waste exemption from hazardous waste regulation. As you know, we represent the Colorado Petroleum Association ("CPA") on the rulemaking request pending before the Colorado Oil and Gas Conservation Commission ("COGCC"). Although the CPA has not seen the request for guidance, it is our understanding it was submitted by a non-profit public interest law firm whose purpose ultimately relates to a question of state law. Specifically, it is our understanding the request seeks EPA's interpretation for the clarity it might lend to the distinction between "solid waste" and "E&P waste," as defined under Colorado law. If used synthetic liners are "E&P waste," as defined in C.R.S. § 34-60-103(4.5), then liner disposal falls within the jurisdiction of the COGCC. If the liners are not E&P waste under the Colorado statutory definition, then the liners may be considered "solid waste" and, accordingly, would therefore be managed by the Colorado Department of Public Health and the Environment under Colorado's Solid Waste Act and implementing regulations. *See* C.R.S. § 30-20-101(6)(b)(VI).

The request to the EPA was submitted in response to an Application for Rulemaking filed with the COGCC by the CPA. It was submitted without notice to either CPA or the COGCC. To date, CPA has not been afforded the opportunity to review that request despite the fact that its request is in response to CPA's Application. The CPA rulemaking Application asserts that pit liner disposal falls within the jurisdiction of the COGCC because used liners are E&P waste under Colorado law. The CPA's Application requests that the COGCC permit onsite burial of used liners under limited circumstances.

If the EPA decides in its discretion that it will issue an interpretive letter on this matter, it should acknowledge that its guidance is limited to the scope of the exemption from hazardous waste requirements under Subtitle C of RCRA. The CPA requests that the EPA explicitly caution against the use of any guidance to determine issues of state law that may be only partially derivative of federal law. It is the CPA's position that Colorado's statutory definition of E&P waste under C.R.S. § 34-60-103(4.5) encompasses but is not limited to Subtitle C exempt E&P waste as delineated by the EPA. The CPA bases its position on the plain statutory language, principles of construction, and the overall waste management scheme established under the Colorado Solid Waste Act, the Colorado Hazardous Waste Act, and the Colorado Oil and Gas Conservation Act.

Regardless, CPA asserts that spent synthetic pit liners are a type of E&P waste which is exempt from regulation as hazardous waste under Subtitle C. Under the statutory language in RCRA, there are three categories of E&P waste: drilling fluids, produced water, and other wastes associated with exploration, development or production. 42 U.S.C. §§ 6921(b)(2), 6982(m). The question here is whether pit liners fall within the category of "other wastes associated with exploration, development or production" (*i.e.*, "associated wastes"). There are essentially two criteria that have to be met for an associated waste to be E&P waste at the federal level. First, the waste must be associated with primary field operations. Second, the waste must be intrinsically derived from such operations.

For a waste to be associated with primary field operations, it must be associated with measures to locate, remove, or purify oil or natural gas (*i.e.*, exploration, development or production operations, sometimes referred to simply as "E&P"). See "Report to Congress, Management of Wastes from the Exploration, Development, and Production of Crude Oil, Natural Gas, and Geothermal Energy," at 7 (Dec. 1987) (EPA, Office of Solid Waste) ("Report to Congress"). For oil, primary field operations encompass activities starting at or near the wellhead and ending at the point of transfer to a carrier. *Id.* at 7-8. For natural gas, primary field operations start at or near the wellhead or gas plant and end at the point where the gas reaches the market pipeline. *Id.* at 8. The intent of the first criterion is to help identify a point where "downstream" or subsequent processes no longer qualify as E&P operations (such as manufacturing or transportation).

See id. at 8. This criterion can also be used to identify wastes that are generated prior to E&P, such as certain types of service company wastes. There is no reasonable basis for arguing that pit liners do not satisfy this first criterion because they are clearly “associated” with primary field operations. Reserve and other types of pits are required for most E&P operations in order to safely and efficiently extract oil and gas resources in Colorado. Moreover, pit liners are integral in order to ensure protection of public health and the environment and, in many cases, are required by COGCC operational rules.

Second, the waste must be “intrinsically derived” from primary field operations. The “intrinsically derived” phrase is synonymous with the “uniquely associated” phrase, and the EPA uses them interchangeably when describing E&P waste. Clarification of the Regulatory Determination for Wastes from the Exploration, Development and Production of Crude Oil, Natural Gas and Geothermal Energy, 58 Fed. Reg. 15284, 15285 (Mar. 22, 1993) (“Regulatory Clarification”). While the first criterion discussed above focuses on when E&P operations begin and end, the second criterion requires operators to consider the specific processes that generated the waste to assess whether the wastes were generated by a process which is intrinsic to E&P, as opposed to some other function which is not intrinsic to E&P.

Not all materials brought to and used at a well site will necessarily qualify as E&P waste under the EPA definition. The fundamental purpose of the second criterion is to distinguish among wastes that meet the first prong. The focus of the inquiry is on the process that generated the waste. If either of the following questions can be answered in the affirmative, then the waste will satisfy the “intrinsically derived” test:

1. Was the waste generated from a process which is intrinsic to E&P? (Exemption of Oil and Gas Exploration and Production Wastes from Federal Hazardous Waste Regulations, at 18, 22 (October 2002) (“EPA Guidance”).

2. Was the waste created by agents which used to facilitate E&P? (Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes, 53 Fed. Reg. 25447, 25454 (July 6, 1988) (“Regulatory Determination”).

Pit liners undoubtedly satisfy the “intrinsically derived” criterion and are therefore E&P waste. The processes that render the liners a waste are clearly intrinsic to oil and gas operations. The EPA stated in its Report to Congress that “[r]eserve pits are an integral part of the drilling process.” Report to Congress, at 12. This statement should be dispositive on the question of whether pit liners are uniquely associated with or intrinsically derived from E&P. The liners placed in these “integral” pits per se satisfy the second criterion, particularly when the liners are mandated by the state agency that regulates oil and gas operations. Further, the liners become waste due to their contact

with agents that are used to facilitate E&P (*e.g.*, drilling fluid, produced water, frac fluid, cuttings, etc.), thereby satisfying both articulations of the EPA's second prong.

Thus, the intrinsically derived/uniquely associated determination for a given waste depends on the process that generated the waste. If an operator brings materials to a well site for use in a non-intrinsic process, then the spent materials will not be E&P waste. The examples provided by the EPA are instructive. Under the Report to Congress, a spent solvent that was used downhole to prevent freezing or buildup in the wellbore will qualify as an E&P waste. A spent solvent used to clean equipment at the well site, on the other hand, is not an E&P waste under the EPA definition. Cleaning is not an intrinsic process – it can be done anywhere and it only secondarily relates to E&P. Drilling, completions and production operations, conversely, are intrinsic processes that must occur at the well site, the pits are “integral” to those processes, and the pits are required by COGCC regulation to be lined.

The process based nature of the E&P waste determination is underscored by EPA's acknowledgement that the same waste could have a different characterization depending on how it was generated. EPA Guidance, at 18. The proper analysis is important, however, because it has been confused in the past. The question is not whether the unused material is unique and intrinsic to the oil and gas industry. Numerous “virgin” materials recognized as E&P waste after certain types of use have utility in other industries and in other contexts. Amines and glycols are good examples. Other examples include water, rags, and sorbent materials. *See* Associated Waste Reports Executive Summary, at ES-2, 3 (EPA) (Jan. 2000). Nor is it persuasive to say that pit liners are merely part of a containment structure, and therefore are not intrinsic to E&P. A waste necessarily derived from a containment structure which is “integral” to the E&P process will be E&P waste. A containment structure used only to transport unused service company fluids to the well site, conversely, is not intrinsic to E&P and therefore is not an E&P waste. The distinction is predicated on the process that generated the waste (transportation of unused products versus E&P).

Close scrutiny of the EPA's listings of E&P wastes clears up potential misperceptions and affirms the conclusion that pit liners are exempt E&P waste. Items such as spent filters, filter media, cartridges, and canisters are E&P waste when used in the dehydration or gas sweetening process. Associated Waste Reports, Executive Summary, EPA, ES-2, 3 (Jan. 2000); Regulatory Determination, at 25454. The EPA considers these spent filters to be exempt E&P wastes if “the filter itself is not hazardous [*i.e.*, not hazardous prior to contact with E&P waste] and the residue in it is from an exempt waste stream.” EPA Guidance, at 10. Pit liners fall within the same class as these filters, the only difference is that the liners are generated during drilling and production as opposed to treatment or dehydration. Moreover, like the filters, the liners

themselves are nonhazardous and they come in contact with substances which are universally considered exempt.

Rags and sorbent materials are another comparable type of E&P waste (under the category of "oily debris"). Associated Waste Reports, Executive Summary, EPA, ES-2 (Jan. 2000). These particular E&P wastes also show how the EPA views the "intrinsically derived" standard. According to the EPA, cleaning equipment is not an intrinsic process while onsite response to a spill or leaking equipment is intrinsic to E&P. Certainly the drilling, completion, and production processes that necessitate pits and pit liners are more intrinsic to E&P than responding to production facility spills and leaks.

Any comparison of used liners to "[o]il and gas service company wastes such as empty drums . . ." misguides the analysis. This was touched on above in response to the allegation that liners are merely part of a containment structure. The process that created the waste, not the nature of the unused material, governs. When the EPA listed various wastes as E&P or non-E&P, it had to make assumptions about how a given waste was generated. Central to the EPA's listing of empty drums, therefore, was EPA's assumption as to how such drums are used by the "oil and gas service company" industry. In identifying these drums as non-exempt, the EPA considered the fact that drums are typically used by service companies to facilitate the transportation of fluids onsite. When used in this way, and in the uncommon event that the drums become waste in the first instance, the drums will not be E&P waste because they were used only to transport virgin materials to the site which is neither part of primary field operations nor intrinsic to E&P. In the 1993 Regulatory Clarification, the EPA clarified its intent concerning this listing by saying its intent was to identify those wastes "generated by service companies that are not uniquely associated with primary field operations." Regulatory Clarification, at 15285. Conversely, an empty drum could be an E&P waste if the drum becomes waste in a process which, unlike transportation of materials to the site, is intrinsic to E&P. This is why the same solvent can have a different characterization based on its use.

If the EPA concludes that pit liners are not E&P waste in and of themselves, the EPA's mixing rules would still render pit liners an exempt E&P waste. The EPA instructs that "[m]ixing a nonhazardous waste (exempt or non exempt) with an exempt waste results in a mixture that is also exempt." EPA Guidance, at p. 14 (parenthetical in original). There is no dispute that pit liners are nonhazardous. It is also undisputed that pit contents are E&P waste. Therefore, if a liner is mixed in any manner with pit contents, the result is an exempt E&P mixture.

Pit liners are mixed with pit contents in at least two different ways. First, no reasonable amount of excavating and cleaning can completely separate the liner from the pit contents after the pit has been used. Pit contents would remain on the liner at some level even if extraordinary measures were taken to clean it. Even "cleaned" pit liners are

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therefore akin to rags used to clean an oil leak that may have been washed but still contain some degree of residue. Furthermore, even if the liners could be completely cleaned of pit contents down to a microscopic level, the liners would still not lose the exempt character that they acquired upon initially placing the E&P waste contents in the pit (*i.e.*, after the initial "mixing"). When a nonhazardous substance or material becomes part of an exempt E&P mixture, it will retain that character. Regulatory Clarification, at 15286.

Second, in many cases, pit contents will be mixed with the liner during reclamation. When pits are closed, contents must meet stringent constituent concentration standards established by the COGCC. COGCC Rule 905.b.(4); 1003.d.; Table 910-1. Therefore, operators will often have to introduce soils or other materials to dilute any remaining pit contents so that the mixture meets acceptable concentration levels. This process, which involves the use of heavy equipment, will invariably lead to incidental mixing of the liner with the pit contents and the other materials even if the utmost degree of care is exercised. This process also leads to an exempt mixture under the EPA's guidance documents. The end result is that the liners are "mixed" with widely recognized E&P waste in at least two ways.

Thank you for your consideration of our comments. Please add the CPA to the distribution list for EPA's interpretative letter on this matter. In the meantime, if we can be of additional assistance to you in any way, please do not hesitate to let us know.

Very truly yours,

/s/ Jep Seman

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