UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
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January 8, 1998

Ref: 8P2-W-GW

Mr. Mark Harvey, Environmental Specialist
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P.O. Box 58900
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Re: RCRA E&P Waste Exemption,
Clarification in Response to
Your October 23, 1997, Letter.

Dear Mr. Harvey:

This letter is a follow up to your letter to me dated October 23, 1997. Your letter provided further clarification regarding your view point of the EPA's RCRA Oil and Gas E&P exemption which was outlined in your September 23, 1997, letter. Your letter was forwarded to staff in the Office of Solid Waste (OSW) and to staff in the Region's RCRA Program and they provided input regarding the issues that you raised. Our review focused on attempting to address the questions and issues raised in your letter. This letter represents Regional and OSW interpretations of the RCRA Oil and Gas E&P exemption. The following discussion attempts to address each of the major points in your October 23, 1997, letter paragraph by paragraph.

In the first paragraph, you indicate that "the basis of the exemption is in understanding the terms waste and waste product, custody transfer, transportation, and primary field operations." Region VIII does not believe that we should be using the term "waste product" since, for purposes of RCRA anyway, it is confusing and mixes apples and oranges. If a material is a product, it is not a waste. As stated below, the term "waste product" was used only once in the March 22, 1993, clarification notice [FR 15284] to refer to unused service company materials that are discarded and destined for disposal.

In the second paragraph, you state that "the issue is whether the exemption applies only to 'wastes' and not products or materials." The answer is very clear: the exemption applies only to wastes. Section 3001(b)(2)(A) of RCRA exempts produced water, drilling fluids, and "other wastes associated" with the exploration, development, and production activities. These are general terms that do not identify all of the specific waste streams to be exempted and studied. For study purposes, the EPA broadly defined the scope of the exemption for oil, gas, and geothermal energy wastes to include not only produced waters and drilling fluids, but also related wastes (referred to herein as "associated wastes"), generated during the exploration, development, and production of crude oil, natural gas, and geothermal energy resources. The Agency excluded

those wastes that are not uniquely associated with exploration, development, and production of crude oil and natural gas and are not exempt from Subtitle C regulation (e.g., used batteries and waste solvents) [53 FR 25447] from its study regarding the management of wastes from the exploration, development, and production of crude oil natural gas and geothermal energy which resulted in the 1987 Report to Congress.

In the 2nd paragraph, you also indicate that "[w]hen examining the EPA Waste Classification document from the Wednesday, July 6, 1988 Federal Register, the list provided is that of 'Oil and Natural Gas Exploration and Production ***Materials and Wastes*** Exempted by the EPA from Consideration as 'Hazardous Wastes'." We assume that by emphasizing the word "materials", you believe that the exemption extends to products as well as wastes. This is not correct. In the 1988 regulatory determination, the Agency introduced the list of exempt wastes as follows: "Based on the language of RCRA section 3001(b)(2)(A) of the 1980 amendments to RCRA, review of the statute, and supporting legislative history, the Agency believes that the following wastes were included in the temporary exemption set forth in the statute" [53 FR 25453]. The Agency used the term materials twice within the list of exempt wastes to define the scope of wastes that are covered by the exemption: -- Accumulated materials such as hydrocarbons, solids, sand, and emulsion from production separators, fluid treating vessels, and production impoundments; -- Materials ejected from a producing well during the process known as blowdown [53 FR 25453]. In this context, the term "material" was meant to provide flexibility in defining the scope of exempt wastes from these operations and does not imply that anything other than waste is covered by the exemption.

In the third paragraph, you state that crude oil spilled at primary production facilities could not be an exempt waste unless the crude oil was an exempt material (product). This is not accurate and needs further clarification. Waste crude oil and hydrocarbon-bearing soil are specifically listed as exempt wastes in the 1988 regulatory determination [53 FR 25453]. This language was based on the legislative history. Crude oil spilled at primary production facilities is not listed as an exempt waste (as was implied in the October 17, 1997, letter which may be a cause for your misunderstanding) and to the extent that spilled crude oil can be recovered; e.g., by vacuum truck, it is not covered by the E&P exemption (if it is recovered for sale, it is not a waste). However, not all of the spilled crude oil can be recovered, resulting in crude oil contaminated soil, which is covered by the exemption. Also, there might be occasions when small amounts of crude oil might be wasted because it's not feasible or practical to recover it; e.g., if stock tank bottoms are cleaned out for disposal, in which case the waste crude oil is covered by the exemption. As we stated before, product crude oil itself is not covered by the E&P exemption, because it is not a waste. However, wastes derived from crude oil during exploration or production operations are covered by the exemption.

Your third sentence in the third paragraph is confusing but I assume that you are implying that crude oil at primary production facilities is exempt and crude oil in transportation lines is not exempt because the crude oil has been transported off-site. This reasoning is incorrect. Product crude oil is not covered by the E&P exemption - period. Wastes from crude oil production at primary facilities (e.g., produced water and crude oil tank bottoms) are covered by the E&P exemption but wastes generated from crude oil in transportation operations are not covered by

the E&P exemption. This has nothing to do with the fact that the crude oil was transported off-site but has to do with the fact that the E&P exemption only applies to wastes associated with the primary production of oil and gas, not transportation wastes. The crude oil was never covered by the E&P exemption in the first place. Understanding the difference between exempt and non-exempt E&P wastes is a matter of determining whether the material (for lack of a better term): (1) is an E&P waste; and (2) is uniquely associated with E&P operations; and (3) is or is not a non-exempt hazardous waste mixture (see flowcharts on pages 12 and 17 of the brochure: "Crude Oil and Natural Gas Exploration and Production Wastes: Exemption from RCRA Subtitle C Regulation", which was previously sent to you).

In the fourth paragraph, you state ". . . your example provides the basis for understanding that condensate which is spilled or released at a gas plant results in the generation of an E&P exempt waste. . . . " Spillage is not the issue, condensate, whether it is generated before or at a gas plant, that is destined for disposal is clearly a waste regardless of whether it is spilled or not. You also indicate that "[I]t is inconsistent to use the term 'waste crude oil' at the wellhead (prior to transportation) as you do and somehow imply that such 'material or product' (crude oil) is waste and not concede that condensate liquids held prior to transportation at a gas plant can not be similarly classified. . . ." As stated previously, waste from crude oil is not a product. It is an E&P waste. Therefore, crude oil waste is covered by the RCRA oil and gas E&P exemption but product crude oil is not. Also, there are distinct differences between crude oil stored at a primary production facility and the condensate stored at a gas plant awaiting transport to market. The Agency considers the crude oil stored at primary field facilities to be undergoing primary field separation; i.e., gravity separation of produced water and solids from the crude oil, and is therefore part of primary production operations so wastes generated from the crude oils at that point are covered by the E&P exemption (but the crude oil itself is not). OSW staff does not consider the condensate stored at a gas plant awaiting transport to market to be undergoing primary field separation, and considers the condensate to have left primary production operations and entered the transportation phase even if custody transfer has not taken place.

For crude oil, "transportation" is defined in the Report to Congress and the subsequent Regulatory Determination as beginning after transfer of legal custody of the oil from the producer to a carrier (i.e., pipeline or trucking concern) for transport to a refinery or, in the absence of custody transfer, after the initial separation of the oil and water at the primary field site. For natural gas, "transportation" is defined as beginning after dehydration and purification at a gas plant, but prior to transport to market [58 FR 15284]. These definitions were based on Congressional intent provided in the legislative history. Condensate stored before or at a gas plant prior to transport to market has entered the "transportation phase" based on the definition of transportation for crude oil and for natural gas; i.e., it already has undergone initial separation or dehydration at the primary field site so neither the wastes generated from the condensate nor the condensate itself are covered by the E&P exemption.

In the fifth paragraph, the discussion of "waste products" versus waste has been addressed above. In the same paragraph, you draw an analogy between condensate and elemental sulfur recovered from hydrogen sulfide gas. This is an excellent analogy. As you point out, ". . . production of elemental sulfur from hydrogen sulfide gas at a gas plant is considered

treatment of an exempt waste." However, the hydrogen sulfide gas is the exempt waste being treated, and only wastes generated from the process of removing elemental sulfur from the hydrogen sulfide gas (a uniquely associated waste) are covered by the E&P exemption (". . . any residual waste derived from the hydrogen sulfide remain's exempt" [58 FR 15287]). The recovered elemental sulfur is a product and therefore is not covered by the E&P exemption.

Neither the 1988 regulatory determination nor the 1993 clarification notice suggests that elemental sulfur is covered by the exemption. Similarly, the condensate in this case is removed from the natural gas stream and/or produced water as product and, like the product elemental sulfur, is not covered by the E&P exemption. However, wastes generated during the process of removing the product condensate from the natural gas stream, e.g., produced water and waste condensate, would be covered by the exemption. Also in this paragraph, you state that "[U]niquely associated wastes such as produced water and condensates are likewise removed from the natural gas to produce, in some cases, a saleable product." Associated wastes are those wastes other than produced water, drilling muds and cuttings, and rigwash that are intrinsic to exploration, development and production of crude oil and natural gas [53 FR 25446]. Section 3001(b)(2)(A) of the Solid Waste Disposal Act of 1980 (Pub. L. 96-480), which amended the Resource Conservation and Recovery Act of 1976 (RCRA), prohibited the EPA from regulating under RCRA Subtitle C "drilling fluids, produced waters, and other wastes associated with exploration, development, or production of crude oil or natural gas" [53 FR 25447] unless the Agency determined that these wastes warrant such regulation. In the statute, Congress did not make a distinction between produced water that is destined for disposal and produced water that might be saleable. The Agency interpreted Congress' intent broadly to mean that all produced water was considered waste except produced water used for enhanced recovery. The Agency determined that produced water injected for enhanced recovery is not a waste for purposes of RCRA regulation and therefore is not subject to control under RCRA Subtitle C or RCRA Subtitle D. Produced water used in enhanced recovery is beneficially recycled and is an integral part of some crude oil and natural gas production processes. Produced water injected in this manner is already regulated by the Underground Injection Control program under the Safe Drinking Water Act. The Agency noted, however, that if the produced water is stored in surface impoundments prior to injection, it may be subject to RCRA Subtitle D regulations [53 FR 25446].

In the sixth paragraph, you indicate that the statement ". . . wastes derived from exempt wastes during the treatment of the exempt waste" implies that crude oil is an exempt waste. It implies nothing of the sort. What the statement indicates is that wastes derived from exempt wastes, such as emulsions and sand derived from crude oil tank bottoms, are also exempt. "...the Agency has consistently taken the position that the wastes derived from the treatment of an exempt waste, including any treatment to recover product from an exempt waste, generally remain exempt from the requirements of RCRA Subtitle C. For example, waste residuals (e.g., BS&W) from the on-site or off-site process of recovering crude oil from tank bottoms obtained from crude oil storage facilities at primary field operations (i.e., operations at or near the wellhead) are exempt from RCRA Subtitle C because the crude oil storage tank bottoms at primary field operations are exempt. This operation is, in effect, conducting a specialized form of waste treatment in which valuable product is recovered and removed from waste uniquely

associated with E&P operations. In addition, in many cases, product recovery or treatment reduces the volume and overall toxicity of the waste and thereby contributes to the Agency's policy and goals for waste minimization and treatment of waste prior to disposal" [58 FR 15284].

As explained previously, product crude oil is not covered by the E&P exemption, and the statement you quote, the regulatory history, the 1988 regulatory determination, and the 1993 clarification notice do not imply that product crude oil or any other products are covered by the exemption.

In the seventh paragraph, you acknowledge that ". . . the scope of the exemption applies to wastes generated from operations to remove impurities from the gas stream." This is absolutely correct. The exemption applies to wastes generated from E&P operations but not to products like product crude oil, product elemental sulfur, and product condensate. In the same paragraph, you state that this is contrary to the following language from the clarification notice: "...the Agency has consistently taken the position that wastes derived from the treatment of an exempt waste, including any recovery of a product from an exempt waste, generally remain exempt from the requirements of RCRA Subtitle C. Treatment of, or product recovery from, E&P exempt wastes prior to disposal do not negate the exemption." However, you are apparently misinterpreting this to mean that product recovered from an exempt waste is also exempt. This is not true. What is meant is that wastes derived from the treatment of an exempt waste, and wastes derived from the recovery of a product from an exempt waste, are also exempt. The statement might be better understood if it was reworded as follows: ...the Agency has consistently taken the position that wastes derived from the treatment of, or recovery of a product from, an exempt waste generally remains exempt from the requirements of RCRA Subtitle C. Treatment of, or product recovery from, E&P exempt wastes prior to disposal do not negate the exemption for residual wastes derived from the treatment of, or product recovery from, E&P exempt wastes.

In the eighth paragraph, you state that the list of wastes provided in the Federal Register includes a waste which is described as "Liquid hydrocarbons removed from the production stream but not from oil refining" and asked if this does not include condensate. The answer is yes, this does include condensate - waste condensate but not product condensate. You indicate that there is no use of the term "waste" or other indication that the material must be disposed of properly. You apparently overlooked the paragraph preceding the list of exempt wastes which states "[b]ased on the language of RCRA section 3001(b)(2)(A) of the 1980 amendments to RCRA, review of the statute, and supporting legislative history, the Agency believes that the following wastes were included in the temporary exemption set forth in the statute " [53 FR 25453]. This clearly indicates that the list consists of wastes and not products. It would be redundant to include the adjective 'waste' before each listing.

The points raised in the ninth paragraph have been addressed elsewhere above. However, it is important to reiterate that, based on the definition of transportation in the 1993 clarification notice, we consider that the condensate in this case has entered "transportation", and therefore neither the condensate nor wastes derived from the condensate would be covered by the exemption. "For crude oil, 'transportation' is defined in the Report to Congress and the

subsequent Regulatory Determination as beginning after transfer of legal custody of the oil from the producer to a carrier (i.e., pipeline or trucking concern) for transport to a refinery or, in the absence of custody transfer, after the initial separation of the oil and water at the primary field site. For natural gas, 'transportation' is defined as beginning after dehydration and purification at a gas plant, but prior to transport to market"[58 FR 15284]. These decisions were based on Congressional intent. Storage of condensate, at the primary field site, awaiting transport to market (as in this case) is analogous to the storage of crude oil after the initial separation of the oil and water at the primary field site - which is defined as transportation.

In the next to last paragraph, you state that "[t]here is apparently general confusion in using and interpreting the terms 'exempt waste', 'waste product', 'material', and waste." The meanings of the terms "exempt waste," "material," and "waste" should be obvious. The term "waste product" is not used in the regulatory determination and is used only once in the clarification notice. The term "waste product" was used in the clarification notice to describe residual unused products that might remain from service company operations and that are destined for disposal, such as 2 pounds of a chemical remaining from a 50-pound bag of the chemical. The term was used as follows: "In other words, wastes generated by a service company (e.g., unused fracture or stimulation fluids and waste products) that do not meet the basic criteria listed in the Report to Congress (i.e., are not uniquely associated with oil and gas E&P operations) are not exempt from Subtitle C under the oil and gas exemption, just as wastes generated by a principal operator that do not meet these criteria are not exempt from coverage by RCRA Subtitle C [58 FR 15286]." You also asked " . . . how is used glycol which is stored for recycling classified?" Waste glycol that was used in the natural gas dehydration process is exempt from RCRA Subtitle C. Examples of waste glycol would include glycol sludge, glycol that can no longer be reused and is removed from the glycol unit for disposal, and spilled glycol that cannot be recovered for reuse including used glycol-contaminated soil. We're not aware that glycol is actually "stored" for recycling but rather continuously cycled through a reboiler and reused in the dehydration process. Similarly, we're not aware that glycol is stored at primary field sites for sale as you indicated.

I hope this additional clarification regarding the E&P exemption and the status of condensate has been helpful. Our comments have not been reviewed and cleared by the Office of General Counsel, but they do reflect the best interpretation of the EPA's technical staff.

If you continue to believe that the EPA staffs are not correctly interpreting the E&P exemption as it relates to condensate, I would recommend that you send a request for further review to the Director of the Office of Solid Waste. I would appreciate being copied should you decide to make such a request.

Sincerely,

(Original signed by David Hogle)
D. Edwin Hogle, Director
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