

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION COMMISSION

APPLICATION OF PUBLIC SERVICE COMPANY OF
NEW MEXICO FOR REVIEW OF DECISION
DATED MARCH 13, 1998 DIRECTING APPLICANT
TO PERFORM ADDITIONAL REMEDIATION
FOR HYDROCARBON, SAN JUAN, NEW MEXICO

CASE NO. 12033

OIL CONSERVATION DIV.
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CLOSING ARGUMENT OF PUBLIC SERVICE COMPANY OF NEW MEXICO

This is an appeal by Public Service Company of New Mexico ("PNM") of an Oil Conservation Division ("OCD") directive dated March 13, 1998 ("March Directive") requiring PNM to "take additional remedial actions within 30 days to remove the remaining source areas with free phase hydrocarbons in the vicinity of and immediately downgradient of the Dehy Pit" at the Hampton 4M well site ("Site") near Aztec, New Mexico. (PNM Exhibit 10) The matter at issue is whether PNM is responsible for free product underlying the Site and associated dissolved phase hydrocarbon contamination extending downgradient and off-Site.

The bases for PNM's appeal are that: 1) the OCD's March Directive is an unsubstantiated apportionment of responsibility; 2) PNM's former unlined pit is not the source for any free phase product in groundwater; 3) the free phase product underlying the Site originated at a release point or points upgradient of PNM's former dehydration pit; 4) to the extent that free product may have been discharged into PNM's former unlined pit, it was the result of operational or mechanical failure of Burlington's upgradient equipment and operations; 5) PNM is not the owner of any free product; and 6) PNM has already recovered more free product from groundwater than could have possibly been discharged into its former unlined pit. PNM seeks a determination from the OCC that PNM has completed all investigation and remediation activities

000140

relating to discharges from PNM's former unlined pit and has no responsibility or liability for further investigation or remediation at the Site.¹

1. The OCD's March Directive Is An Unsubstantiated Apportionment Of Responsibility At The Site

The New Mexico Water Quality Act, NMSA 1978, §§ 74-6-1 *et seq.* and the water quality regulations at 20 NMAC Chapter 6, Part II, do not impose joint and several liability for investigation and remediation of groundwater contamination. (Ristau Direct p. 14). Neither do the OCD's abatement regulations at 19 NMAC Chapter 15. (Ristau pp. 13 and 14). As acknowledged by the OCD, responsibility for investigation and clean-up is based upon the relative contribution to contamination by the dischargers of the contamination. (Olson p. 634).

Rather than basing any apportionment of responsibility at the site upon the relative contribution of the dischargers, the OCD's March Directive drew a "line in the sand" to apportion responsibility for investigation and clean-up at the Site. (Olson p. 624). PNM was allocated responsibility for all investigation and remediation of soil, free product and dissolved phase contamination north of the OCD line, including all affected areas downgradient and off-Site. (Olson p. 625). Conversely, Burlington was allocated responsibility only for soil, free product and dissolved phase contamination south of and upgradient of the OCD line. (Id.). PNM appealed the OCD March Directive because this allocation of responsibility was fundamentally flawed. As a result of this appeal, the OCD retreated from its initial allocation of responsibility and now acknowledges that Burlington's operations contributed the majority of free product at the Site. (Olson pp. 627-28; 641).

¹ References to the record appear parenthetically. References to pre-filed testimony are identified by reference to the witness name, form of testimony and page number i.e. (Gannon Direct p. 5) refers to page 5 of the Direct Testimony of PNM witness Maureen Gannon. References to the hearing transcript are identified by witness and page number of the transcript i.e. (Rosasco p. 550) refers to page 550 of the transcript and the testimony of Burlington witness Paul Rosasco.

The OCD still contends that Burlington is responsible for all soil, free product and dissolved phase contamination south of the OCD "line in the sand." (Olson p. 635). The OCD likewise contends that PNM is responsible for soil contamination north of the line, and acknowledges that all such contamination has been removed. (Id; Olson p. 648). However, the OCD, in partial recognition of the mistake in its initial allocation, now contends that both PNM and Burlington are equally and jointly responsible for all free product and dissolved phase contamination north of the "line in the sand." (Id.). Unfortunately, the OCD's most recent allocation is still both scientifically and legally unfounded, as it is not based upon the relative contribution of the dischargers.

2. *PNM's Former Unlined Pit Is Not The Source For Any Free Phase Product In The Groundwater Under The Site.*

The evidence shows, to a reasonable scientific certainty, that PNM's former unlined pit was not the source of free product contamination at the Site. Free product contamination associated solely with a dehydration pit is a rare occurrence; usually, there is an additional source unrelated to the dehydrator pit. (Gannon Direct pp. 38-41). OCD Witness Olson initially testified that free product at dehydration sites and attributable solely to the dehydrator was not a rare occurrence. Under cross-examination, he conceded that in his experience with over 4000 sites, only 13 had free product contamination, and it was not clear that in all these instances, other sources of free product contamination were not present. (Olson p. 631). Only 1 in every 308 sites, or only 0.325%, have free product contamination associated with a dehydration pit. Thus, the overwhelming odds are that PNM's former dehydration pit did not contribute to free product contamination at the Site.

The soil borings beneath PNM's former dehydration pit also establish that the pit was not a source of free product contamination. The boring log for monitoring well MW-2, drilled

000115

directly through PNM's former pit shows only hydrocarbon odor and staining to 16 feet below grade. (Gannon Direct pp. 17-19; Terauds Direct pp. 5-6). It was only upon reaching the groundwater table, at about 20 to 22 feet below grade, that hydrocarbon-saturated soils were detected. (Gannon Direct p. 19; Terauds Direct p. 6). The log shows that there was no continuous free product in the soil column extending from land surface to the water table. (PNM Exhibit 15). Therefore, the source of free product on groundwater cannot be the former PNM pit. (Gannon Direct p. 19; Terauds Direct pp. 5-7).

Equally telling are the results of Burlington soil boring SB-2. SB-2 showed benzene concentrations of only 36 ppm detected in the soil sample taken from 15 to 16 feet directly below PNM's former pit. (PNM Exhibit 15). Both the OCD and Burlington admit that in the ordinary course of a pit investigation, this finding would have entitled PNM to close this pit, as it would not constitute a substantial source of contamination to groundwater. (Olson pp. 651-52; Rosasco p. 550). The low levels of benzene in the soil column beneath PNM's former pit validate that groundwater was not impacted by PNM's former pit. Moreover, witness accounts of Burlington's mass excavation activities in the area of PNM's former pit indicated that there were no hydrocarbon-saturated soils present in the soil column from the bottom of PNM's pit to the water table, so clear evidence exists that significant amounts of free product were not released to groundwater through PNM's former pit. (Sikelianos p. 12-13).

The evidence presented regarding the design and operation the dehydrators and Burlington's combination unit separators also prove that only minimal amounts of free product could have been discharged to PNM's former pit. Burlington's combination unit separators are at least 99 percent efficient in removing free product from natural gas piped to PNM's dehydration equipment if they are operated properly. (Heath Direct p. 11; Dillon p. 500; Rhodes p. 512). Burlington Witness Dillon testified that he had no reason to believe that the separators were not

operated properly (Dillon pp. 499-500). Therefore, very little free product could have reached PNM's dehydrators. (Id.). Moreover, if large amounts of free product were released from the separators to the dehydrators, the dehydrators, by design, would shut the well in and prevent significant free product carryover to the dehydrators. (Heath Direct pp. 14-15)

Burlington Witness Rhodes presented testimony about the theoretical volumes of free product that a dehydrator could possibly discharge, but he also testified that he could only discuss "possibilities" with respect to dehydrators in general, and not actual quantities discharged through PNM's dehydrators. (Rhodes p. 515, 541) PNM Witness Heath interviewed former operators at the site and confirmed that PNM's dehydrators were working well, with no excessive glycol loss. (Heath Direct pp. 17-19). If large volumes of free product had gone to the dehydrators, loss of glycol would have resulted. (Heath Direct p. 18). Therefore, we must conclude that the dehydrators were working properly and that little free product was discharged to the pit through the dehydrators. (Id.).

Finally, PNM calculated the maximum amount of free product that could have been discharged to its former pit. (PNM Exhibit 58). Under a worst-case scenario, a maximum of 1126 gallons of free product could have been discharged into PNM's former pit (Id.). The amount of free product that could have actually entered the groundwater would be considerably less than this volume because soils underlying the pit would absorb the free product before it could reach the groundwater. (Terauds Direct p. 21; Olson p. 645). Therefore, less than 1,000 gallons of free product could possibly have reached the ground water. This worst-case volume does not account for more than 7,000 gallons and over four feet of free product on the groundwater. (Terauds Direct pp. 20-21)

000177

3. ***The Free Phase Product Underlying The Site Originated At A Release Point Or Points Upgradient Of PNM's Former Dehydration Pit.***

A substantial amount of data were collected from monitoring wells installed by PNM and Burlington. (PNM Exhibit 48) Free product was confirmed in MW-4, MW-8 and MW-10. (Id.). It is undisputed that the predominant groundwater flow direction underlying the well pad is to the northwest (Olson p 629; Rosasco pp. 592-3; and PNM Exhibit 8). The hydraulic gradient beneath the well pad is 0.1, which indicates that rapid free product and groundwater migration is possible. (Terauds Direct pp. 15-17). Groundwater flows from the area of Burlington's operations to the area underlying PNM's former dehydration pit. (Id.). A sand lens underlying the well pad progressively thickens under the former location of PNM's dehydration pit. (Terauds Direct pp. 10-11; 17-18). Both groundwater and hydrocarbons migrate along the easiest path, the sand layer. (Id.) As the thickest portion of this sand lens directly underlies PNM's former pit location, the thickest accumulation of the free product released by Burlington was found underlying the area of PNM's former pit. (Id.)

There is a significant amount of free product far upgradient from PNM's former pit. (Terauds Direct pp. 12-13). If PNM's pit were the source of the free product, there would not be any significant accumulation of product upgradient from that source. (Id.). The migration of contamination from PNM's former pit to the area of Burlington's equipment can be ruled out based on reasonable scientific probability. (Terauds Direct pp. 46-47). Burlington Witness Rosasco concedes that such migration is not feasible. (Rosasco p. 617).

A laterally extensive free product layer underlies the Site. (PNM Exhibit 57). PNM recovered in excess of 1,050 gallons of free product during its recovery operations. (Terauds Direct p. 23) (PNM Exhibit 59). Despite ongoing product recovery by PNM, the free product

000143

thickness remained relatively constant at about 2 feet after an initial drop from 4.6 feet of thickness. (Ristau Direct p. 22; PNM Exhibit 59)

PNM estimates the volume of free product under the Site between 7,700 and 13,000 gallons. (Terauds Direct pp. 21-23, PNM Exhibit 58). PNM also noted an anomaly in Burlington's liquid hydrocarbon production rates from the Hampton 4M well. (PNM Exhibits 43, 44, 45). The production records and calculated oil and gas ratios indicate there was no recovery of any liquid hydrocarbons from the Mesa Verde formation for a period of at least two years, though gas production from the formation continued during that period. (Id.). This loss of production remains unexplained by Burlington. (Dillon p. 476). The volume of unaccounted liquid hydrocarbon production in one year alone is greater than the entire volume of free product estimated to underlie the Site. Further, if Burlington actually did not produce those liquid hydrocarbons, PNM could not possibly have discharged them through its dehydrators, as the only source of liquid hydrocarbons to any of PNM's equipment or to its former pit is from Burlington's operations. (Heath Direct p. 17; Rhodes p. 520).

New evidence developed at the Site at the direction of the OCD further demonstrates that Burlington is the source for free product contamination released to the environment at the Site.² Burlington installed three (3) new wells at the Hampton 4M site on October 13, 1999 (MW-14, MW-15 and MW-16). On October 21, 1999, PNM sampled certain wells at the Hampton 4M site, including the new wells installed by Burlington. Sampling of MW-14 indicates approximately two (2) feet of free product floating on the groundwater in the area of Burlington's present and former operations, far upgradient from PNM's former operations. This confirms that Burlington is continuing to release free product or that a large volume of free

² PNM filed an application to submit this new evidence. The grounds for the new evidence are set forth in PNM's application and the OCC has heard argument on the application, but has deferred ruling. PNM submits that the new evidence is highly relevant to the issues in this case and should be considered by the OCC in ruling on this case.

product released in the past by Burlington is still present in the vadose zone near Burlington's operations.

As there was no monitoring well data from Burlington's tank and pit area, Burlington and the OCD relied on the relative thickness of free product under PNM's former pit as a basis for their contention that PNM's former pit must be the source of free product contamination. (Olson p. 639; Rosasco Direct p. 4). Burlington now acknowledges that there is a laterally extensive free product plume underlying the Site. (Rosasco p. 598). This new evidence confirming two feet of free product in the immediate vicinity of Burlington's operations thus unequivocally demonstrates that the free product originated from Burlington's operations and migrated to the area of PNM's former pit. Both OCD and Burlington now confirm that Burlington is a major source for free product at this Site. (Rosasco p. 557; Olson pp. 627-28; 641). This represents a direct reversal of their earlier positions on this issue. (Rosasco p. 559; Olson Id.).

4. *To The Extent That Free Product May Have Been Discharged Into PNM's Former Unlined Pit It Was The Result Of Operational Or Mechanical Failure Of Burlington's Upgradient Equipment And Operation.*

Burlington had absolute control over the operation and recovery of free product through its separators. (Heath Direct p. 17) PNM had no control over the operation of the separators or any free product released by Burlington to PNM's dehydrators. (Id.)

Under the terms of the gas purchase agreement in effect between PNM and Burlington, Burlington was required to remove liquid hydrocarbons, commonly referred to as "free product," from the natural gas purchased by PNM. (PNM Exhibit 12). PNM purchased natural gas free of deleterious liquids and was not in the business of purchasing free product. (Id.). The only way that free product could reach PNM's dehydrators is if Burlington, through the operational or mechanical failure of its separators, allowed the free product to contact PNM's dehydrators. (Heath Direct p 17; Rhodes p. 520).

000150

Thus, PNM was at the mercy of Burlington's operations and management of free liquids at the site. Under these circumstances, it is inherently unfair and contrary to the intent of the Water Quality Act and regulations to hold PNM responsible for contamination released by Burlington or caused by problems with Burlington's operations or equipment. Burlington should not be allowed to escape responsibility for groundwater contamination of its own making, and to force PNM to bear the responsibility for cleanup of contamination that PNM did not own, control, or discharge to the environment.

5. *PNM Is Not The Owner Of Any Free Product Under The Site.*

Under the terms of the gas purchase agreement in effect between PNM and Burlington, PNM purchased natural gas free of deleterious liquids (PNM Exhibit 12). Title to the natural gas passed to PNM at the meter orifice located downstream of the dehydrator and upstream of the gathering system. (Ristau Direct p. 33). Indeed, the free product recovered from the groundwater by PNM was taken and later sold by Burlington. (Gannon Direct p. 29).

Burlington, as the owner of the free product, should be required to investigate and remediate any remaining contamination at the Site, as all remaining contamination at the Site is attributable to Burlington's releases of free product that it alone owned and controlled.

6. *PNM Has Already Recovered More Free Product From The Groundwater Than Could Have Possibly Been Discharged Into Its Former Unlined Pit Under Any Reasonable Scenario.*

PNM recovered free product at the Site from January 1998 until early November of 1998 when MW-6 was removed from the site by Burlington, effectively rendering any additional free product by PNM an impossibility. (Gannon Direct p. 29) PNM recovered about 1,050 gallons of free product from the groundwater. (Terauds Direct p. 23) PNM recovered more free product than it could have possibly introduced to the groundwater through its former dehydrator pit under any reasonable separator carryover scenario. (Terauds Direct p. 45).

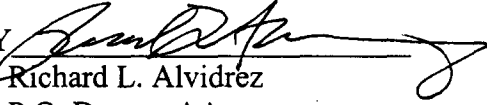
000151

PNM's free product recovery also supports PNM's petition for closure of the Site under the OCD abatement regulations. The abatement regulations specifically provide that a party is excused from further responsibility for investigation and clean-up once the party has cleaned the site to background levels. 19 NMAC Ch. 15A.19.A.(2). Upgradient contamination constitutes "background" for any potential down-gradient discharger. The evidence showing two feet of free product released by Burlington substantially upgradient of PNM's operations establishes that the remediation performed by PNM to date constitutes remediation to background levels. The OCD has previously granted closure to PNM at sites where PNM cleaned the site to background levels, and should do so in this case as well. (Olson p. 677-78)

CONCLUSION

The facts and the law clearly show that PNM is not responsible for free product and associated dissolved phase product contamination at and near the Site. Accordingly, PNM should be relieved from all further responsibility for investigation and clean-up at the Site and be granted closure of its former pit.

Respectfully submitted,
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CASE NO. 120332

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OIL CONSERVATION DIV.

CERTIFICATE OF SERVICE

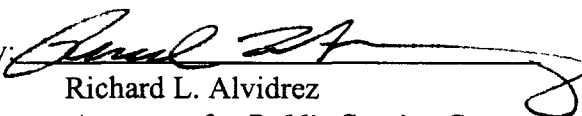
I HEREBY CERTIFY that a true and correct copy of the Proposed Order of Public Service Company of New Mexico, along with this Certificate of Service, was mailed this 14th day of January, 2000 to the following:

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000173