# STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

AMENDED APPLICATION OF WILLIAMS PRODUCTION CO., LLG FOR APPROVAL OF A CLOSED-LOOP SYSTEM FOR THE ROSA SWD WELL NO. 2 AND FOR THE IN-PLACE BURIAL OF DRILLING WASTES AT ANOTHER WELL LOCATION, NEW MEXICO.

CASE NO. 14463

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## OIL CONSERVATION DIVISION ENFORCEMENT AND COMPLIANCE MANAGER'S MOTION FOR RECONSIDERATION OF MOTION TO DISMISS WILLIAMS PRODUCTION CO. LLC'S APPLICATION FOR HEARING AND MOTION TO SET THE CASE BEFORE THE OIL CONSERVATION COMMISSION IF THE MOTION TO DISMISS IS DENIED

COMES NOW, the Enforcement and Compliance Manager of the New Mexico Oil Conservation Division (hereinafter, "OCD"), by and through his attorney, Sonny Swazo, and hereby moves for reconsideration of the OCD's motion to dismiss the above-entitled application for hearing filed by Williams Production Co. LLC (hereinafter, "Williams"). (A copy of OCD's original motion to dismiss is attached as Exhibit A.)

The OCD asks that the OCD Division Director issue a written ruling on the motion to dismiss, and that the OCD Division Director set this matter for hearing before the Oil Conservation Commission pursuant to 19.15.4.20 NMAC if the motion to dismiss is denied.

Williams' application for hearing should be dismissed because it seeks exceptions to 19.15.17 NMAC (the Pit Rule) without going through the administrative process set out in the Rule. Williams (1) failed to follow the process set out by the Pit Rule to apply for an exception; (2) failed to provide required notice to the public and affected parties; (3) failed to make the showings required for an exception; and (4) bypassed the process for obtaining review by the

OCD's the Environmental Bureau. In addition, it appears that the exception that Williams seeks would allow it to dispose of oilfield waste from multiple locations at a single site. That would require a permit for a surface waste management facility under 19.15.36 NMAC, and Williams cannot bypass those permitting requirements.

#### **ARGUMENT**

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Williams is proposing using a temporary drilling pit to drill the Rosa SWD Well No. 002 (30-039-30812), a well that is located miles away from the pit site. For the Rosa SWD Well No. 002, the pit would provide additional fluids storage for pressure control, hole stability and solids/cuttings management. (See Paragraph 8 of Amended Application.) Williams also wants to use the pit for other wells. However, it is unclear from Williams' hearing application which wells would use the pit or even where the pit would be located. Williams proposes two sites in its hearing application-the Rosa Unit Well No. 634C located in Section 23, Township 31 North, Range 6 West, NMPM, and the Rosa Unit Well No. 635B located in Section 21, Township 31 North North, Range 5 West, NMPM. (See Paragraph 7 of Amended Application.) However, these wells may be the Rosa Unit No. 634B and Rosa Unit No. 635C, since Williams has identified the Rosa Unit No. 634B as another possible site, but it is not certain. (See Paragraph 7 of Williams' Response to OCD's Motion to Dismiss.) It is unclear whether Williams plans to use only one site or multiple sites to dispose of its wastes. Muddying up the waters is the fact that Williams recently filed several other permit applications for the same wells involving different proposals.<sup>1</sup> With no clear proposal, it is unclear what type of set-up Williams plans on

<sup>&</sup>lt;sup>1</sup> On March 23, 2010, the Aztec OCD Office received a Form C-144 CLEZ from Williams for a closed-loop system at the Rosa SWD Well No. 002. (See Form C-144 CLEZ, attached as Exhibit B.) In the Form C-144 CLEZ Williams states that the closed-loop system will not entail the use of a temporary pit and that the wastes from the closed-loop system will be disposed of at a disposal facility, Envirotech. (Id. at Page 3.) This is contrary to what Williams is representing in

using. But one thing is clear, Williams wants an open order from the OCD to allow it to use a pit

at its own discretion.

Williams' application seeks approval for use of a temporary pit in a manner that would

require exceptions to the Pit Rule:

- Subparagraph (f) of Paragraph (2) of 19.15.17.13.F NMAC provides that "[t]he operator shall use a separate temporary pit for closure of each drying pad associated with a closed-loop system." Williams is asking for permission to use its temporary pit to combine waste from the closed-loop system at the Rosa Unit 634B with waste from the closed-loop system at the Rosa SWD No. 2.
- Pursuant to Subparagraph (f) of Paragraph (2) of 19.15.17.13.F NMAC, an operator burying the contents of a drying pad associated with a closed-loop system shall construct a temporary pit "within 100 feet of the drying pad associated with a closed-loop system." Williams is asking for permission to construct and use a temporary pit some nine miles away from one of the closed-loop systems it will serve.
- Paragraphs (1) and (2) of 19.15.17.13.D NMAC set out the two closure methods for closed-loop systems recognized by the Pit Rule: Waste removal and on-site burial. Any deviations from these recognized methods constitutes an "alternative closure method," and the operator must apply for an exception, 19.15.17.13.D(3) NMAC, and make the showing required in 19.15.17.15.B NMAC. The Williams' proposal to dispose of waste from a closed-loop system at a temporary drilling pit associated with a different well is not a closure method recognized by the Pit Rule, and requires an exception. Williams' pit application also refers to disposing of cuttings in the temporary pit if the cuttings are treated with a soil burner. Disposal after treatment with a soil burner is an alternative closure method requiring an exception.

In addition, Williams' applications contain many provisions that would require

exceptions to the Pit Rule. For example, Williams' proposed closure limit for chlorides is 1000

its amended application and April 8, 2010 response to OCD's motion to dismiss. On March 9, 2010, the Aztec OCD Office received a Form C-144 for a closed-loop system and temporary drilling pit for the Rosa Unit No. 634B. (See Form C-144, attached as Exhibit C.) This well is located 10 miles from the Rosa SWD Well No. 002. (See Paragraph 7 of Williams' Response to OCD's Motion to Dismiss.) On March 9, 2010, the Aztec OCD Office received a Form C-144 for a closed-loop system and temporary drilling pit for the Rosa Unit 635C. (See Form C-144, attached as Exhibit D.) In each Form C-144 Williams represented that the pit would only be used for that particular well for which the form was submitted. None of the forms mentioned that the pit would also be used for the Rosa SWD Well No. 002, or any other well for that matter. This is contrary to what Williams represented in its April 8, 2010 response to OCD's motion to dismiss. Because none of the forms presented the proposal that Williams is requesting in its hearing application, the Aztec OCD Office did not review the forms for such a proposal. (See Affidavit of Brandon Powell, attached as Exhibit F.)

mg/kg, but based on the information they provided in their C-144, the in-place closure standard for chlorides cannot exceed 500 mg/kg or the background concentration, whichever is greater. Williams proposes to use the sampling protocol for the waste excavation and removal closure method, which involves sampling beneath the temporary pit, but the correct sampling protocol for in-place burial would require sampling the contents of the temporary pit itself. Williams proposes to report releases in accordance with 19.15.29 NMAC (which considers the volume of a release), but the Pit Rule requires reporting of releases in accordance with 19.15.17.12.A(5) NMAC (which requires reporting of any release, regardless of volume).

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Williams has not applied for any exception in accordance with 19.15.17 NMAC. It cannot obtain the exceptions it seeks through the hearing process without first meeting the procedural requirements set out in the Pit Rule. Therefore, its application for hearing should be denied.

# I. <u>Williams has not properly applied for the exception to 19.15.17 NMAC that is</u> proposed in its hearing application.

19.15.17.15 NMAC establishes an administrative process that operators are required to follow to apply for an exception. 19.15.17.9.A NMAC states, "An operator shall use form C-144 to apply to the division for a permit to construct or use a pit, closed-loop system, below-grade tank or proposed alternative method to which 19.15.17 NMAC applies." 19.15.17.9.D NMAC states, "An operator shall file an application, form C-144, and all required attachments with the environmental bureau in the division's Santa Fe office to request approval to use or construct a permanent pit or request an exception pursuant to 19.15.17.15 NMAC...."

Williams never filed a Form C-144 with the Environmental Bureau for the exceptions that it is seeking in its hearing application. Williams states that filing a Form C-144 for the request would amount to a fool's errand because the Aztec OCD Office would deny it for the

same reasons that it denied its Form C-144 application for a pit that Williams proposed using to provide additional fluids storage for pressure control, hole stability and solids/cuttings management at the Rosa Unit No. 394 location to drill the Rosa SWD Well No. 002 with a closed-loop system. The Aztec OCD Office denied that Form C-144 because Williams was requesting to dispose of drilling wastes off the well site. (See Page 1 of Form C-144, attached as Exhibit E.) The Aztec OCD office informed Williams that its proposal to dispose of drilling wastes off the drill site required it to either obtain a surface waste management facility permit in accordance with 19.15.36 NMAC or haul the material to an OCD-approved disposal facility. (Id.) Williams is asking the OCD for a ruling which would allow it to dispose of drilling wastes off the wellsite where the waste is generated.

Williams' request to dispose of the drilling wastes off the wellsite where the waste is generated is an exception to the Pit Rule. Using one pit for more than one closed-loop system is also an exception to the Pit Rule. Using a pit to dispose of wastes from a drill site located miles away from the pit is an exception to the Pit Rule. Williams' request to use one pit to dispose of wastes from more than one drill site would make the site a surface waste management facility. As such, Williams needs to follow the proper application procedures for a Pit Rule exception or surface waste management facility.

Williams claims that the Aztec OCD Office has approved co-located pits on the Rosa Unit previously and the same design would be utilized here. (See Paragraph 12 of Williams' Response to OCD's Motion to Dismiss.) The OCD has never been presented with the proposal that Williams is seeking in its hearing application. (See Affidavit of Brandon Powell, attached as Exhibit F.) The Aztec OCD Office has approved co-located pits for wells drilled on the same

well pad, but not for wells drilled on separate well pads. (<u>Id</u>.) This is not the same situation being presented in Williams' hearing application.

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An OCD ruling that would allow an operator to dispose of drilling wastes off the wellsite where the wastes are generated would establish a bad precedent. It would create a foundation upon which operators could request various proposals for off-site disposal. An operator would be allowed to dispose of its drilling wastes anywhere within the State. Landowners could agree to dispose of the drilling wastes on their property even though none of the drilling activity occurred on site. Drilling wastes could come from multiple drill sites. This would also allow an operator to circumvent the rule for surface waste management facilities. The surface waste management facility rule requires, among other things, that the operator post financial assurance for the facility, <u>see</u> 19.15.36.11 NMAC, that the public and affected parties have the right to notice and comment on any surface waste management facility application, <u>see</u> 19.15.36.9, .10 NMAC, and that the surface waste management facility be constructed and operated in a manner that would not endanger fresh water, public health, safety, or the environment, <u>see</u> 19.15.36.12.A(1) NMAC.

Additionally, allowing Williams to pursue its proposal through a hearing application rather than the application process established by 19.15.17 NMAC would circumvent the administrative process established in Rule 19.15.17 NMAC. This also sets a bad precedent because operators would not be required to follow the application process established in 19.15.17 NMAC. Operators could file a hearing application for their proposal instead of going through the required administrative review process. This would saddle OCD hearing examiners with an increased workload because they would have to process all of the hearing applications.

An administrative review process of a permit application is important for several reasons. It promotes the efficient use of limited OCD resources. It gets the operator to nail down its proposal. It ensures that an application is administratively complete. It ensures that the applicant has met all of the conditions necessary for approval. It provides a useful record for OCD hearing examiners in cases of appeal. Most importantly, it allows the Environmental Bureau- the OCD staff with specialized expertise- to perform the initial evaluation.

Currently the Environmental Bureau is preparing a guidance manual for the Pit Rule. In preparing that guidance, the Environmental Bureau will be taking a comprehensive look at the Pit Rule and its requirements. Allowing the Engineering Bureau to conduct a hearing on an issue that has not been developed through the regular administrative process creates the potential for confusion and conflict. The facts and the legal positions should be fully developed before the issue reaches hearing.

#### II. Williams has not complied with the notification requirements for an exception.

The public and affected parties have the right to notice of any application for exception, and to comment on any exception. The Rule requires the operator to give written notice by certified mail, return receipt requested, to the surface owner of record where the proposed alternative is or will be located; to surface owners of record within one-half mile of the location; to the county commission of the county where the proposed alternative is or will be located; to the appropriate city officials if the proposed alternative is or will be located within city limits, within one-half mile of the city limits or within the city's zoning and planning jurisdiction; to affected federal or tribal or pueblo governmental agencies; and to such other persons as the Environmental Bureau may direct. (See 19.15.17.15.A(2) NMAC.) The notices must be

approved by the Environmental Bureau. (<u>Id</u>.) Any person wishing to comment on an application for an exception may file comments or request a hearing. (<u>See</u> 19.15.17.15.A(3) NMAC.)

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There has been no showing of Williams' compliance with the notice requirements of 19.15.17.15.A NMAC. No exceptions to the Pit Rule can be granted without the required public notice.

# III. <u>Williams has not made the necessary showings for an exception and the Environmental Bureau has not made the required determinations for an exception.</u>

Under 19.15.17 NMAC, the Environmental Bureau is the OCD office that is charged with determining exception requests. For all exceptions, 19.15.17.15.A(1) NMAC provides that the operator must demonstrate to Environmental Bureau's satisfaction that the granting of the exception provides equivalent or better protection of fresh water, public health and the environment. For alternative closure methods, 19.15.17.15.B NMAC provides that the Environmental Bureau may grant the proposed exception if all of the following requirements are met:

(1) The operator demonstrates that the proposed alternative method protects fresh water, public health and the environment.

(2) The operator shall remove liquids prior to implementing a closure method and dispose of the liquids in a division-approved facility or recycle or reuse the liquids in a manner that the environmental bureau in the division's Santa Fe office approves.

(3) The operator demonstrates to the satisfaction of the environmental bureau in the division's Santa Fe office that any proposed alternative closure method will implement one or more of the following practices: waste minimization; treatment using best demonstrated available technology; reclamation; reuse; recycling; or reduction in available contaminant

concentration; and subject to such conditions as the environmental bureau in the division's Santa Fe office deems necessary in order to protect fresh water, public health and the environment.

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(4) The provisions of Subsection A of 19.15.17.15 NMAC shall apply to applications for exceptions pursuant to Subsection B of 19.15.17.15 NMAC.

Williams has not made the factual showings that it is required to make under 19.15.17.15 NMAC for an exception. Whether an exception is approved or denied requires a determination by the Environmental Bureau. The procedures are meant to get exceptions in front of the Environmental Bureau because they are in the best position to evaluate the proposal. That has not happened in this case because Williams has decided to apply for a hearing on its proposal rather than applying for an exception through the administrative process.

# IV. <u>Williams seeks approval for a surface waste management facility, without following the requirements of 19.15.36 NMAC.</u>

Williams' proposal in its hearing application to use a temporary pit to dispose of the drilling wastes for a well that is located miles away from the same location as the pit, and wells located at the same location as the pit, resembles a request for a surface waste management facility. A surface waste management facility is a facility that receives oil field waste for collection, disposal, evaporation, remediation, reclamation, treatment or storage. See 19.15.2.7.S(11) NMAC. To request a surface waste management facility, Williams has to apply for a permit pursuant to the provisions of 19.15.36 NMAC. Williams has not applied for a surface waste management facility permit.

#### **CONCLUSION**

Williams' hearing application should be denied because Williams is requesting an exception to 19.15.17 NMAC for which it has not properly applied. Williams has not provided the public and affected parties with the notification that it is required to provide when requesting an

exception, Williams has not made the necessary showings for approval of an exception request, and the Environmental Bureau has not been allowed to make the determinations that it is required to make under 19.15.17 NMAC for an exception. To the extent Williams is seeking approval to dispose of oilfield wastes at a central facility, it is seeking a permit for a surface waste management facility under 19.15.36 NMAC. Williams has not followed the process set by 19.15.36 NMAC for obtaining such a permit.

The OCD seeks a written ruling from the Division Director on its motion to dismiss because this case raises serious procedural questions that will define the roles of the Engineering Bureau and the Environmental Bureau and impact how the OCD handles permitting under the Pit Rule and the Surface Waste Management Rule. If the Division Director denies the motion to dismiss, the OCD asks that the hearing in this case be set before the Oil Conservation Commission, so that the issues can be decided by the body that adopted the Pit Rule and the Surface Waste Management Rule.

WHEREFORE, the OCD Enforcement and Compliance Manager respectfully requests:

- (1) the OCD Director grant his motion to dismiss the above-entitled application;
- (2) the OCD Director issue a written ruling on the motion to dismiss;
- (3) the OCD Director to set this matter for hearing before the Oil Conservation Commission pursuant to 19.15.4.20 NMAC if the motion to dismiss is denied;
- (4) for such other and further relief as the OCD deems necessary and appropriate.

Respectfully Submitted, Somiv Swazo

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## **CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing pleading was served upon the following party on April 22, 2010:

Ocean Munds-Dry Holland & Hart LLP P.O. Box 2208 Santa Fe, NM 87504-2208 Phone: (505) 988-4421 Fax: (505) 983-6043 Email: <u>omundsdry@hollandhart.com</u>

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Attorney for Applicant Williams Production Co., LLC

Sonný Swazø

## STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

AMENDED APPLICATION OF WILLIAMS PRODUCTION CO., LEC FOR APPROVAL OF A CLOSED-LOOP SYSTEM FOR THE ROSA SWD WELL NO. 2 AND FOR THE IN-PLACE BURIAL OF DRILLING WASTES AT ANOTHER WELL LOCATION, NEW MEXICO

CASE NO. 14463

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#### OIL CONSERVATION DIVISION'S MOTION TO DISMISS WILLIAMS <u>PRODUCTION CO. LLC'S APPLICATION FOR HEARING</u>

COMES NOW, the Enforcement and Compliance Manager of the New Mexico Oil Conservation Division (hereinafter, "OCD"), by and through his attorney, Sonny Swazo, and hereby moves the OCD to dismiss the above-entitled application for hearing filed by Applicant Williams Production Co. LLC (hereinafter, "Applicant").

AS GROUNDS, the OCD Enforcement and Compliance Manager states the following:

- On March 25, 2010, Applicant filed the above-entitled amended application for hearing seeking "an order approving a closed-loop system for the Rosa SWD Well No. 2 and the in-place burial of drilling and completion wastes at another well location."
- 2. Applicant states in its hearing application that it "seeks to take the waste [from the Rosa SWD Well No. 2] to an approved temporary pit at another proposed well location either the Rosa Unit Well No. 634C located in Section 23, Township 31 North, Range 6 West, NMPM or the Rosa Unit Well No. 635B located in Section 21, Township 31 North North, Range 5 West, NMPM," and bury it on-site.

Exhibit A

- 3. The rules regarding the construction or use of a closed-loop system or pit are set out in Rule 19.15.17 NMAC.
- 4. Rule 19.15.17.8 requires an operator to have a permit in order to construct or use a closed-loop system or pit.
- 5. The permit application is described in Rule 19.15.17.9 NMAC.
- 6. Subsection A of 19.15.17.9 NMAC states in relevant part:

An operator shall use form C-144 to apply to the division for a permit to construct or use a pit, closed-loop system, below-grade tank or proposed alternative method to which 19.15.17 NMAC applies. The operator shall submit the form C-144 either separately or as an attachment to a permit application for a facility with which the pit, closed-loop system, below-grade tank or proposed alternative method will be associated.

- 7. Subsection B of 19.15.17.9 NMAC requires the permit application to include a detailed plan for the type of waste management system that the operator proposes to use.
- 8. The detailed plan required for a temporary pit is described in Paragraph 2 of Subsection B of 19.15.17.9 NMAC. Paragraph 2 states:

The plan for a temporary pit shall use appropriate engineering principles and practices and follow applicable liner manufacturers' requirements. The plan shall include operating and maintenance procedures, a closure plan and hydrogeologic data that provides sufficient information and detail on the site's topography, soils, geology, surface hydrology and ground water hydrology to enable the appropriate division district office to

evaluate the actual and potential effects on soils, surface water and ground water and compliance with the siting criteria of 19.15.17.10 NMAC. The plan for a temporary pit may incorporate by reference a standard design for multiple temporary pits that the operator files with the application or has previously filed with the appropriate division district office.

 The detailed plan required for a closed-loop system is described in Paragraph 3 of Subsection B of 19.15.17.9 NMAC. Paragraph 3 states:

The plan for a closed-loop system shall use appropriate engineering principles and practices and follow applicable manufacturers' requirements. The plan shall include operating and maintenance procedures and a closure plan. The plan for a closed-loop system may incorporate by reference a standard design for multiple projects that the operator files with the application or has previously filed with the appropriate division district office. If the operator proposes to bury the contents of a drying pad associated with a closed-loop system in an on-site trench, the operator shall provide sufficient information and detail on the site's topography, soils, geology, surface hydrology and ground water hydrology to enable the appropriate division district office to evaluate the actual and potential effects on soils, surface water and ground water and compliance with the siting criteria of 19.15.17.10 NMAC.

10. Subsection C of 19.15.17.9 NMAC requires the permit application to have a closure plan. Subsection C describes the requirements for a closure plan.

11. The filing of a permit application for temporary pit is described in Paragraph 2 of Subsection D of Rule 19.15.17.9 NMAC, which states:

To request approval to use or construct a temporary pit, closed-loop system or below-grade tank, an operator shall file an application, form C-144, and all required attachments with the appropriate division district office. If the operator plans to use a temporary pit, the operator shall provide the proposed pit location on form C-102.

12. Subsection A of 19.15.17.16 NMAC states:

The division shall review all applications to permit facilities subject to 19.15.17 NMAC, and may approve, deny or approve an application with conditions. If the division denies an application or approves the application subject to conditions not expressly provided by the Oil and Gas Act or in 19.15 NMAC, then the division shall notify the applicant by certified mail, return receipt requested, and shall set the matter for hearing if the applicant so requests within 10 days after receipt of such notification.

13. As provided by the rules, Applicant is required to have a permit in order to construct or use a closed-loop system or temporary pit. The rules require Applicant to use form C-144 to apply for a permit. The permit application is required to contain certain information. A permit application for a closed-loop system is required to include a detailed plan as provided by the rule. A permit application for a temporary pit is required to include a detailed plan as provided by the rule. Since Applicant plans to use a temporary pit, Applicant is required to provide the proposed pit location on

form C-102. The rules require the C-144 to be filed with the appropriate district office. The rules allow the Applicant the opportunity for a hearing if the OCD were to deny its permit application or approve the permit application subject to conditions not expressly provided by the Oil and Gas Act or in 19.15 NMAC.

- 14. Applicant has not properly applied for a permit to construct or use a temporary pit at either the Rosa Unit Well No. 634C or Rosa Unit Well 635B. As the application indicates, Applicant never applied for a permit to construct or use a temporary pit at either the Rosa Unit Well No. 634C or Rosa Unit Well 635B, for purposes of drilling the Rosa SWD Well No. 2. The exhibits attached to Applicant's hearing application are not for the Rosa Unit Well No. 634C or Rosa Unit Well 635B.
- 15. Applicant states that the temporary pit will be located at "another proposed well location" either the Rosa Unit Well No. 634C or Rosa Unit Well 635B, indicating that the temporary pit will be used to drill the Rosa Unit Well No. 634C or Rosa Unit Well 635B in addition to drilling the Rosa SWD Well No. 2. These would be factors to consider in any permit application to construct or use a temporary pit at either the Rosa Unit Well No. 634C or Rosa Unit Well Societ No. 634C or Rosa Unit No. 634C or Rosa Unit Well Societ No. 634C or Rosa Unit Well Societ No. 634C or Rosa Unit No. 634C or Rosa Unit No. 63
- 16. Applicant is not entitled to a hearing at this point because there has been no denial of a permit application, or approval of a permit application subject to conditions not expressly provided by the Oil and Gas Act or in 19.15 NMAC.

17. Applicant needs to apply for a permit in accordance with the rules.

WHEREFORE, the OCD Enforcement and Compliance Manager respectfully requests that the OCD dismiss the above-entitled hearing application so that Applicant may properly follow the administrative procedures for applying for a permit to construct or use a closed-loop

system or temporary pit; and for such other and further relief as the OCD deems necessary and appropriate.

Respectfully Submitted,

Sonny Swazo)

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#### **CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing pleading was served upon the following party on April 6, 2010:

Ocean Munds-Dry Holland & Hart LLP P.O. Box 2208 Santa Fe, NM 87504-2208 Phone: (505) 988-4421 Fax: (505) 983-6043 Email: <u>omundsdry@hollandhart.com</u>

Attorney for Applicant Williams Production Co., LC

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Operator	ease be advised that approval of this request does avironment. Nor does approval relieve the operato	ot relieve the operator of liability sl of its responsibility to comply with	any other applicable go	n pollution of surface water, ground water ground water mental authority's rules, regulation	ater or the ns or ordinances
Address       PO Bios 640, Azec, NM 87410       011 CDNS, DIV.         Facility or well name       Resa Unit SWD 82       0251.3         API Number       30-039-9599 20012       00D Permit Number       0131.3         API Number       30-039-9599 20012       00D Permit Number       0131.5         VL or QUQue       F       Section 23       Township 31N, Range 05W, County Rio Arriba         Center of Proposed Design Lancade       36 37077N       Longitude       -107 31548W       NAD       1927 20 1923         Surface Owner       Closed-loop System       Subsection H of 1915 17 11 NMAC       -107 31548W       NAD       1927 20 1923         Signed in compliance with 1915 3103 NMAC       Subsection C of 1915 17 11 NMAC       -102 324       24 electrone or notice of intent)       P&A         Signed in compliance with 1915 3103 NMAC       Subsection B of 19 15 17 11 NMAC	Operator Williams Production	n Co, LLC	OGRID #	120782 RCVD MAR 23	'10
Facility or well name	Address PO Box 640, Aztec, NM	87410		OT CONS. D	IV.
API Number	Facility or well name Rosa Unit SWD #2			DIST. 3	
U/L or Qtr/Qtr       F       Section       25       Township       31N       Range       05W       County       Rio Arnha         Center of Proposed Design       Latitude       36 \$7077N       Longitude       -107 31548W       NAD       1927       1983         Surface Owner       Stade       Private       Tribal Trust or Indian Allotment       NAD       1927       1983         Surface Owner       Drilling a new well       Workover or Drilling (Apples to activities which require prior approval of a permit or notice of inten.)       P&A         Move Ground Steel Tanks or       Haul-off Bins       Signed in compliance with 915 31 01 NMAC         12 'x 24''. 2'' tettering, providing Operator's name, site location, and emergency telephone numbers       Signed in compliance with 91 15 31 03 NMAC         Cleased-loop System       Studie Tanks or Of the following teams numb the attached to the application. Please indicate, by a check mark in the bux; that the documents are attached         Operating and Maintenance Plan - based upon the appropriate requirements of 1915 17 12 NMAC       Operating and Maintenance Plan - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC         Operating and Maintenance Plan - Ased upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC         Previously Approved Design (attach copy of design)       API Number	API Number 30-039-29508 30-52 (2)	OCD Permit Num	ber	,	
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Surface Owner 🖾 Federal 🗌 State 📄 Private 🗋 Tribal Trust or Indian Allotment           Image: Surface Owner 🖾 Federal 🔤 State 📄 Private 📄 Tribal Trust or Indian Allotment           Image: Surface Owner 🖾 Federal 🔤 State 📄 Private 📄 Tribal Trust or Indian Allotment           Image: Surface Owner 🖾 Federal 🔤 State 📄 Private 📄 Tribal Trust or Indian Allotment           Image: Surface Owner 🖾 Federal 🔤 state 📄 Private 📄 Tribal Trust or Indian Allotment           Image: Surface Owner 🖾 Federal 🔤 State 📄 Private 📄 Tribal Trust or Indian Allotment           Image: Subsection C of 19 15 17 11 NMAC           Image: Subsection C of 19 15 17 11 NMAC           Image: Subsection C of 19 15 17 11 NMAC           Image: Subsection C of 19 15 17 11 NMAC           Image: Subsection B of 19 15 17 11 NMAC           Image: Subsection B of 19 15 17 11 NMAC           Image: Subsection B of 19 15 17 11 NMAC           Image: Subsection B of 19 15 17 11 NMAC           Image: Decision B of 19 15 17 11 NMAC           Image: Decision B of 19 15 17 11 NMAC           Image: Decision B of 19 15 17 11 NMAC           Image: Decision B of 19 15 17 11 NMAC           Image: Decision B of 19 15 17 11 NMAC           Image: Decision B of 19 15 17 11 NMAC           Image: Decision B of 19 15 17 11 NMAC           Image: Decision B of 19 15 17 11 NMAC           Image: Decision B of 19 15 17 11 NMAC           Image: Decision B of 19 15 17 13 NMAC     <	Center of Proposed Design Latitude 3	6 87077N [ ongitude	-107 31548W	NAD [1977 198	-
i          i <tr< td=""><td>Surface Owner X Federal C State C Private</td><td>Tribal Trist or Indian Allotme</td><td> 101 919 1010</td><td></td><td></td></tr<>	Surface Owner X Federal C State C Private	Tribal Trist or Indian Allotme	101 919 1010		
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Closure frame (rease complete box 5)* based upon the appropriate requirements of subsection C of 1915 1715 NMAC and 1915 1715 NMAC     Previously Approved Design (attach copy of design) API Number     Previously Approved Operating and Maintenance Plan API Number     API Number     Vaste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only (1915 1713 D NMAC)     Instructions Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two     facilities are required.     Disposal Facility Name See offoched CLP Disposal Facility Permit Number     Disposal Facility Name Disposal Facility Permit Number     Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future service and operations     Yes (If yes, please provide the information below) M No     Required for impacted areas which will not be used for future service and operations     Soit Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection I of 1915 1713 NMAC     Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 1915 1713 NMAC	Closed-loop Systems Permit Application Atta Instructions: Each of the following items mus attached     Design Plan - based upon the appropriate     Operating and Maintenance Plan - based     Occurs Plan (Planse complete Box S), b	chment Checklist Subsection E be attached to the application. If requirements of 1915 1711 NM. upon the appropriate requirements	3 of 19 15 17 9 NMAC Please indicate, by a cl AC of 19 15 17 12 NMAC	heck mark in the box, that the docu	ments are
□       Previously Approved Operating and Maintenance Plan       AP1 Number         □       Previously Approved Operating and Maintenance Plan       AP1 Number         □       S         Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only (1915 17 13 D NMAC)         Instructions       Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.         Disposal Facility Name	Closure Han (Hease complete Box 5) - 0     Previously Approved Desum (attach conv.o	f dasign) A P1 Number	nend of Subsection C	01 19 15 17 9 MWAC and 19 15 17	13 NMAC
s         Maste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only (19 15 17 13 D NMAC)         Instructions       Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.         Disposal Facility Name	Previously Approved Operating and Maintee	nance Plan API Number		_	
Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only (19 15 17 13 D NMAC)         Instructions       Please undentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings       Use attachment if more than two facilities are required.         Disposal Facility Name	5				
Disposal Facility Name See dt/dched CLP Disposal Facility Permit Number Disposal Facility Name Disposal Facility Permit Number Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future service and operations' Yes (If yes, please provide the information below) No Required for impacted areas which will not be used for future service and operations' Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC 	<u>Waste Removal Closure For Closed-loop Sys</u> Instructions Please indentify the facility or fa facilities are required.	ems That Utilize Above Ground cilities for the disposal of liquids,	l Steel Tanks or Haul drilling fluids and dr	<u>-off Bins Only</u> (19)5 17 13 D NN ill cuttings Use attachment if more	1AC) than two
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Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future service and operations'         □ Yes (If yes, please provide the information below) ⊠ No         Required for impacted areas which will not be used for fidure service and operations         □ Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC         □ Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC         □ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC         □ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC         □ Operator Application Certification.         1 hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief'         Name (Print)       Michael K Lane       TitleSr_EH&S Specialist	Disposal Facility Name	·····	Disposal Facility Per	mit Number	
Required for impacted areas which will not be used for fidure service and operations         Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC         Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC         Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC         Operator Application Certification.         I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief         Name (Print)       Michael K Lane         Title       Sr EH&S Specialist	Will any of the proposed closed-loop system op Yes (If yes, please provide the informatic	erations and associated activities on below) 🛛 No	occur on or in areas tha	t will not be used for future service :	and operations?
6 <u>Operator Application Certification</u> . Thereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief Name (Print)	Required for impacted areas which will not be i Soil Backfill and Cover Design Specifica Re-vegetation Plan - based upon the appr Site Reclamation Plan - based upon the a	sed for future service and operati tions based upon the appropriat opriate requirements of Subsection ppropriate requirements of Subsect	ons e requirements of Sub i 1 of 19 15 17 13 NM, tion G of 19 15 17 13	section H of 19 15 17 13 NMAC AC NMAC	,
Thereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief          Name (Print)       Michael K-Lane       Title       Sr. EH&S Specialist	6 Operator Application Certification.				
Name (Print) Michael K Lane TitleSr EH&S Specialist	I hereby certify that the information submitted	with this application is true, accurate	nte and complete to the	e best of my knowledge and belief	
	Name (Print) Michael K Lane	Title	Sr_EH&S Specialis	t	
Signature Date 3/22/09	Signature	Re	Date	3/22/09	
a mail address — muka laurébuilt un con — Talanhana — 505 (34 2010	a mol address and shares and shar	Tal-1	505 624 2210		
Comment of the comment of th	Form C-144 CLEZ	Williams Rosa Ui	nt SWD #2	Page 1 of 4	 Exhibin

OCD Representative Signature:	Approval Date				
Title	OCD Pernut Number				
* <u>Closure Report (required within 60 days of closure</u> Instructions: Operators are required to obtain an app The closure report is required to be submitted to the d section of the form until an approved closure plan has	completion)       Subsection K of 19 15 17 13 NMAC         proved closure plan prior to implementing any closure activities and submitting the closure report         livision within 60 days of the completion of the closure activities         Please do not complete this         s been obtained and the closure activities have been completed         Closure Completion Date				
9 Closure Report Reporting Waste Removal Closure	For Closed-loop Systems That Lituze Above Ground Steel Tanks or Haul-off Bins Only				
Instructions Please indentify the facility or facilities, two facilities were utilized	for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than				
Disposal Facility Name	Disposal Facility Permit Number				
Disposal Facility Name	Disposal Facility Permit Number				
Were the closed-loop system operations and associated Ves (If yes, please demonstrate compliance to the	activities performed on or in areas that will not be used for future service and operations? i.e. items below) INO				
Required for impacted areas which will not be used for <ul> <li>Site Reclamation (Photo Documentation)</li> <li>Soil Backfilling and Cover Installation</li> <li>Re-vegetation Application Rates and Seeding Te</li> </ul>	enture service and operations				
Dependence of the information of the information of the information and attachments subscription of the information and attachments subscription of the information and attachments with all a subscription of the information	ibmitted with this closure report is true, accurate and complete to the best of my knowledge and applicable closure requirements and conditions specified in the approved closure plan				
Name (Print)	Title				
Signature	Date				

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#### Williams Production Co., LLC San Juan Basin. New Mexico Assets Closed-Loop System Plan. Drilling/Completion

In accordance with Rule 19-15-17 NMAC, the following plan describes the general Design & Construction, Operation & Maintenance, and Closure of Closed-Loop systems on Williams Production Co, LLC (WPX) locations in the San Juan Basin of New Mexico

#### Closed-Loop Design Plan

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The Closed-Loops System will consist of one or more temporary above-ground tank(s) suitable for holding the cuttings and fluids for rig operations and the planned workover activities. The tank(s) will be of sufficient volume to maintain a safe free-board between disposal of the liquids and solids from rig operations. Additional design considerations include

- 1 The Closed-loop System used by WPX will not entail a drying pad, temporary pit, belowgrade tank or sump
- 2 Fencing is not required for an above-ground closed-loop system
- 3 If will be signed in compliance with 19 15 3 103 NMAC
- 4 A frac tank will be on location to store water
- 5 Tanks will be placed on the active and disturbed areas of the well location and within the existing ROW footprint See attached Schematic

#### Closed-Loop Operations/Maintenance Plan

The Closed-Loops System will be operated and maintained to contain liquids and solids to aid in the prevention of contamination of fresh water sources, in order to protect public health and the environment. The following steps will be followed to attain this goal.

- 1 The liquids will be vacuumed out and disposed of at one of the following facilities depending on the proximity of the well and available disposal volumes Rosa Unit SWD #1 (Order SWD-916 API 30-039-27055), Jillson Fed SWD #001 (Order R10168/R10168A, API 30-039-25465) Middle Mesa SWD #001 (Order SWD-350-0, API 30-045-27004) and/or Basin Disposal (Permit NM-01-0005)
- 2 Solids in the Closed-Loop tank will be vacuumed out and disposed of at Envirotech (Permit Number NM-01-0011) on a periodic basis to prevent over topping
- 3 No hazardous waste, miscellaneous solid waste or debris will be discharged into or stored in the tank(s). Only fluids or cutting intrinsic to, used or generated by rig operations will be placed or stored in the tank(s).
- 4 The Division District office will be notified within 48 hours of the discovery of compromised integrity of the Closed-Loop System. Upon discovery of the compromised tank repairs will be enacted immediately.
- 5 All of the above operations will be inspected and a log will be signed and dated. During rig operations the inspection will be daily

#### Closed-Loop Closure Plan

The Closed-Loops System will be closed in accordance with 19 15 17 13. This will be done by

- Transporting cuttings and all remaining sludge to Envirotech (Permit Number NM-01-0011) following rig operations
- 2 Transport for disposal All remaining liquids will be of in one of the following facilities depending on the proximity of the well and available disposal volumes Rosa Unit SWD #1 (Order SWD-916 API 30-039-27055) Jillson Fed SWD #001 (Order R10168/R10168A, API 30-039-25465), Middle Mesa SWD #001 (Order SWD-350-0, API 30-045-27004) and/or Basin Disposal (Permit NM-01-0005)
- 3 Removal of the tank(s) from the well location as part of the rig move
- 4 At time of well abandonment, the site will be reclaimed and re-vegetated to pre-existing conditions when possible, or as stipulated by the landowner in a surface use agreement.



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District I 1625 N French Dr., Hobbs, NM 88240 District II 1301 W Grand Avenue, Artesia, NM 88210 District III 1600 Rio Brazos Road, Aztee NM 87410 District IV 1220 S St Francis Dr., Santa Fe, NM 87505

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State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St Francis Dr
Santa Fe, NM 87505

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office

Proposed Alternative Method Permit or C	<u>-Grade Tank, or</u> Closure Plan Applica	tion
Type of action Permit of a pit, closed-loop system, below-g Closure of a pit, closed-loop system, below- Modification to an existing permit Closure plan only submitted for an existing	rade tank, or proposed altern grade tank, or proposed alter permitted or non-permitted p	native method mative method pit, closed-loop system,
below-grade tank, or proposed alternative method	,	
Instructions Please submit one application (Form C-144) per individual pit, clo	sed-loop system, below-grade to	ank or alternative request
Please be advised that approval of this request does not relieve the operator of hability should oper	ations result in pollution of surfac	ce water, ground water or the
		Ty a rules, regulations of ordinances
Operator Williams Operating Co, LLC	OGRID #	120782
Address PO Box 640 / 721 S Main Aztec, NM 87410		
Facility or well name Rosa Unit 634 B		
API Number OCD Permit Nu	mber	· · · · · · · · · · · · · · · · · · ·
U/L or Qtr/Qtr <u>H</u> Section <u>22</u> Township <u>31N</u> Range	<u>6W</u> County	Rio Arriba
Center of Proposed Design Latitude <u>36 88756N</u> Longitude	-107 44689W	NAD 🗌 1927 🛛 1983
Surface Owner 🛛 Federal 🗋 State 🗋 Private 🗍 Tribal Trust or Indian Allotment		
Temporary       Ø Drilling       Workover         Permanent       Emergency       Cavitation       P&A         Ø Lined       Unlined       Liner type       Thickness       20mil       Ø LLDPE       HDPE         Ø String-Reinforced	] PVC 🗌 Other 12000bbl Dimensions L	,_80' x W 40' x D_20'
3         Image: Closed-loop System       Subsection H of 19151711 NMAC         Type of Operation       P&A Image: Drilling a new well       Workover or Drilling (Applies to intent)         Image: Drying Pad       Above Ground Steel Tanks       Haul-off Bins       Other         Image: Lined       Unlined       Liner type       Thickness       mil       LLDPE       HDPE         Image: Seams       Image: Welded       Factory       Image: Other       Image: Closer       Image: Closer	activities which require prior at	pproval of a permit or notice of $\frac{56189107772}{3}$
		PECEIVED ON
Image: Below-grade tank       Subsection 1 of 19 15 17,11 NMAC         Volume      bbl       Type of fluid         Tank Construction material	automatic overflow shut-off	MAR 12010
U Visible sidewalls and liner       Visible sidewalls only       Other         Liner type       Thickness       mil       HDPE       PVC       Other		

#### Alternative Method

Submittal of an exception request is required - Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval

Exhibit C

Fencing Subsection D of 1915 1711 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)

Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)

I Four foot height, four strands of barbed wire evenly spaced between one and four feet

Alternate Please specify <u>As per BLM specifications</u>

Netting Subsection E of 19 15 17 11 NMAC (Applies to permanent pits and permanent open top tanks)

Screen Netting Other

Monthly inspections (If netting or screening is not physically feasible)

Signs: Subsection C of 19 15 17 11 NMAC

12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

Signed in compliance with 19 15 3 103 NMAC

#### Administrative Approvals and Exceptions

Justifications and/or demonstrations of equivalency are required Please refer to 19 15 17 NMAC for guidance

Please check a box if one or more of the following is requested, if not leave blank

Administrative approval (s) Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval

Exception(s) Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval

10 Siting Criteria (regarding permitting) 19 15 17 10 NMAC

Instructions The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of accemterial are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appr office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of Applicant must attach justification for request. Please refer to 19 15.17.10 NMAC for guidance. Siting criteria does not apply to dry above-grade tanks associated with a closed-loop system.	eptable source opriate district approval ying pads or
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank - NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells	🗋 Yes 🛛 No
<ul> <li>Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)</li> <li>Topographic map, Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🖾 No
<ul> <li>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (Applies to temporary, emergency, or cavitation pits and below-grade tanks)</li> <li>Visual inspection (certification) of the proposed site, Aerial photo, Satellite image</li> </ul>	☐ Yes 🛛 No ☐ NA
<ul> <li>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (<i>Applies to permanent pits</i>)</li> <li>Visual inspection (certification) of the proposed site, Aerial photo, Satellite image</li> </ul>	☐ Yes ☐ No ⊠ NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application - NM Office of the State Engineer - iWATERS database search, Visual inspection (certification) of the proposed site	🗌 Yes 🛛 No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended - Written confirmation or verification from the municipality, Written approval obtained from the municipality	🗌 Yes 🔀 No
Within 500 feet of a wetland - US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site	🗌 Yes 🛛 No
<ul> <li>Within the area overlying a subsurface mine</li> <li>Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division</li> </ul>	🗌 Yes 🛛 No
<ul> <li>Within an unstable area</li> <li>Engineering measures incorporated into the design, NM Bureau of Geology &amp; Mineral Resources, USGS, NM Geological Society, Topographic map</li> </ul>	🗌 Yes 🛛 No
Within a 100-year floodplain - FEMA map	🗌 Yes 🛛 No

n <u>Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist</u> : Subsection B of 1915 179 NMAC Instructions: Each of the following items must be attached to the application Please indicate, by a check mark in the box, that the documents are
attached         □       Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 1915 17.9 NMAC         ⊠       Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 1915 17.9 NMAC         ⊠       Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 1915 17.10 NMAC         ⊠       Design Plan - based upon the appropriate requirements of 1915 17.11 NMAC         ⊠       Operating and Maintenance Plan - based upon the appropriate requirements of 1915 17.12 NMAC
Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC
Previously Approved Design (attach copy of design) API Number or Permit Number
12         Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 1915179 NMAC         Instructions Each of the following items must be attached to the application Please indicate, by a check mark in the box, that the documents are attached         Statistic Cologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 1915179         Sting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19151710 NMAC         Design Plan - based upon the appropriate requirements of 19151712 NMAC         Operating and Maintenance Plan - based upon the appropriate requirements of 19151712 NMAC         Closure Plan (Please complete Boxes 14 through 18 if applicable) - based upon the appropriate requirements of Subsection C of 1915179 NMAC
and 19 15 17 13 NMAC
Previously Approved Design (attach copy of design)  API Number  Previously Approved Design (attach copy of design)  API Number  (1)  (1)  (1)  (1)  (2)  (2)  (2)  (2)
above ground steel tanks or haul-off burs and propose to implement waste removal for closure)
13
Permanent Pits Permit Application Checklist Subsection B of 1915 17.9 NMAC Instructions Each of the following items must be attached to the application Please indicate, by a check mark in the box, that the documents are attached.  Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 1915 17.9 NMAC Climatological Factors Assessment Cimatological Factors Assessment Complexed upon the appropriate requirements of 19 15 17 11 NMAC Cimatological Factors Assessment Construction and Installation Plan Cimatological and Overtoping Prevention Plan - based upon the appropriate requirements of 19 15 17 11 NMAC Cimatological Advectors and Construction Plan - based upon the appropriate requirements of 19 15 17 11 NMAC Cimators an
Proposed Closure, 19 15 17 13 NMAC         Instruction       Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.         Type       Drilling       Workover       Emergency         Cavitation       P&A       Permanent Pit       Below-grade Tank       Closed-loop System
<ul> <li>☐ Alternative</li> <li>Proposed Closure Method</li> <li>☐ Waste Excavation and Removal</li> <li>☐ Waste Removal (Closed-loop systems only)</li> <li>☐ On-site Closure Method (Only for temporary pits and closed-loop systems)</li> <li>☐ In-place Burnal</li> <li>☐ Alternative Closure Method (Experiment and the sets Faller system)</li> </ul>
Waste Excavation and Removal Closure Plan Checklist*       (19 15 17 13 NMAC) Instructions* Each of the following items must be attached to the closure plan Please indicate, by a check mark in the box, that the documents are attached.

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<sup>16</sup> Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only (1915 1713 Instructions' Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment y	D NMAC) f more than two				
actimes are required Disposal Facility Name Envirotech Disposal Facility Permit Number NM-01-0011					
Disposal Facility Name					
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future se Yes (If yes, please provide the information below) No	rvice and operations?				
Required for impacted areas which will not be used for future service and operations           Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC           Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC           Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC	4C				
<sup>17</sup> <u>Siting Criteria (regarding on-site closure methods only)</u> : 19 15 17 10 NMAC Instructions. Each siting criteria requires a demonstration of compliance in the closure plan Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15 17 10 NMAC for guidance.					
Ground water is less than 50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells	□ Yes ⊠ No □ NA				
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells	□ Yes ⊠ No □ NA				
Ground water is more than 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells					
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark) <ul> <li>Topographic map, Visual inspection (certification) of the proposed site</li> </ul>	🔲 Yes 🛛 No				
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application - Visual inspection (certification) of the proposed site, Aerial photo, Satellite image	🗌 Yes 🛛 No				
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application - NM Office of the State Engineer - iWATERS database, Visual inspection (certification) of the proposed site	🔲 Yes 🛛 No				
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended - Written confirmation or verification from the municipality, Written approval obtained from the municipality	🗋 Yes 🖾 No				
Within 500 feet of a wetland - US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site	🗌 Yes 🛛 No				
Within the area overlying a subsurface mine - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	🗌 Yes 🛛 No				
<ul> <li>Within an unstable area</li> <li>Engineering measures incorporated into the design, NM Bureau of Geology &amp; Mineral Resources, USGS, NM Geological Society, Topographic map</li> </ul>	🗌 Yes 🛛 No				
Within a 100-year floodplain - FEMA map	🗌 Yes 🕅 No				
<ul> <li>On-Site Closure Plan Checklist: (1915 1713 NMAC) Instructions: Each of the following items must be attached to the closure plan Please indicate, by a check mark in the box, that the documents are attached.</li> <li>Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 1915 1710 NMAC</li> <li>Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 1915 1713 NMAC</li> <li>Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 1915 1711 NMAC</li> <li>Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 1915 1713 NMAC</li> <li>Protocols and Procedures - based upon the appropriate requirements of 1915 1713 NMAC</li> <li>Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 1915 1713 NMAC</li> <li>Waste Material Sampling Plan (based upon the appropriate requirements of Subsection F of 1915 1713 NMAC</li> <li>Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)</li> <li>Soil Cover Design - based upon the appropriate requirements of Subsection H of 1915 1713 NMAC</li> </ul>					

Re-vegetation Plan - based upon the appropriate requirements of Subsection 1 of 19 15 17 13 NMAC
 Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

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	the information submitted with this applied	non is intre, accurate and complete to the be-	st of my knowledge and hehef		
Name (Print)	Michael K Lane	Title Sr E	H & S Specialist		
Signature	AN C	Date 3/2	0/10		
e-mail address	myke lane@williams com	Telephone	505-634-4219		
20 OCD Approval	Permit Application (including closure pla	n) 🗌 Closure Plan (only) 📋 OCD Con	ditions (see attachment)		
OCD Representativ	e Signature: BA Sale		Approval Date. 3/16/10		
TitleE	usino/spec	OCD Permit Number.			
Closure Report (rec Instructions. Opera The closure report of section of the form u	<u>pured within 60 days of closure completi</u> tors are required to obtain an approved cli s required to be submitted to the division w intil an approved closure plan has been ob	nn) Subsection K of 19 15 17 13 NMAC soure plan prior to implementing any closus within 60 days of the completion of the closus trained and the closure activities have been Closure Completion	ire activities and submitting the closure rep ure activities Please do not complete this completed. on Date		
22 Closure Method: Waste Excavatio	n and Removal 🔲 On-Site Closure Meth approved plan, please explain	10d 🗌 Alternative Closure Method 🗋	Waste Removal (Closed-loop systems onl		
23 Closure Report Reg Instructions · Please two facilities were u	arding Waste Removal Closure For Close e indentify the facility or facilities for wher fulized	ed-loop Systems That Utilize Above Grou e the liquids, drilling fluids and drill cuttin	und Steel Tanks or Haul-off Bins Only ags were disposed Use attachment if more		
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Required for impacte Site Reclamat Soil Backfillir Re-vegetation	ed areas which will not be used for future se ion (Photo Documentation) og and Cover Installation Application Rates and Seeding Technique	ervice and operations			
24 Closure Report Att mark in the box, tha Proof of Close Proof of Deed Plot Plan (for Confirmation Waste Matern Disposal Fact Soil Backfillin Re-vegetation	achment Checklist <sup>1</sup> Instructions. Each of it the documents are attached. In Notice (surface owner and division) Notice (required for on-site closure) on-site closures and temporary pits) Sampling Analytical Results (if applicable) al Sampling Analytical Results (required fo hity Name and Permit Number ig and Cover Installation Application Rates and Seeding Technique ion (Photo Documentation)	f the following items must be attached to the following items must be attached to the following items of the follo	he closure report Please indicate, by a chi		
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Rosa Unit 634 B

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District II 1301 W Grand District III 1000 Rio Braz	i Avenue . Ics Rd A	Antesia N# ztec NM 87	68210 7410	0IL 1220	CONSERVA ) South St Santa Fe.	TION DIVISI : Francis C NM.87505	Submit ON )F	to Appr	opriate l State Le Fee Le	District Office ase - 4 Copies ase - 3 Copies
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634A PAT APP

#### Hydrogeological Report Williams Production Company, LLC Rosa Unit #634 Series

#### **Regional Hydrological Context**

#### Referenced Well Location

The referenced well and pit is located on Bureau of Land Management land within Farmington Field Office (FFO) management jurisdiction in Rio Arriba County, New Mexico This site is positioned in the northeastern portion of the San Juan Basin, an asymmetrical syncline that extends from northwestern New Mexico into southwestern Colorado (Carson National Forest FEIS, 2008) Elevation of the referenced well is approximately 6256 feet MSL

#### General Regional Groundwater Description.

As a portion of the San Juan Basin, the FFO administrative area is underlain by sandstone aquifers of the Colorado Plateau. The primary aquifer of potential concern at this location is the Uinta-Animas Aquifer, composed primarily of Lower Tertiary rocks in the San Juan Basin. The aquifer consists of the San Jose Formation, the underlying Animas formation and its lateral equivalent, the Nacimiento formation, and the Ojo Alamo Sandstone. The thickness of the Uinta-Animas aquifer generally increases toward the central part of the Basin. In this region, the maximum thickness of the aquifer is approximately 3500 feet (USGS, 2001). This aquifer contains fresh to moderately saline water.

Groundwater generally flows toward the San Juan River and it tributaries, where it becomes alluvial groundwater or is discharged to stream flow. Additional information regarding the hydrogeologic setting can be found in the provided references.

#### Site Specific Information:

	Surface Hydrology. The proposed pit is located on a mid-		
	elevation, north-facing slope toward Laguna Seca Draw/Navajo		
	Reservoir junction (0.17 miles to the north)		
1 <sup>st</sup> Water Bearing Formation:	San Jose, Tertiary		
Formation Thickness:	Approximately 1,900 ft		
Underlying Formation	Nacimiento, Tertiary		
Depth to Groundwater:	Depth to groundwater is estimated at greater than 100 feet bgs		
	Within a one-mile radius of this location, there are no iWATERS wells with recorded water depth information. However, cathodic		
	data associated with the Rosa Unit Nos 12B (approximately		
	1,696 feet from pit), 18 (approximately 110 feet from pit) and		
	201 (approximately 612 feet from pit) show depth to moisture		
	between 110 and 300 feet (see Siting Criteria Map I for details)		

#### **References:**

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Allen, Erm Undated Colorado Plateau Aquifers http://academic.emporia.edu/schulmem/hydro/TERM%20PROJECTS/2007/Allen/Aquifer.html

New Mexico Office of the State Engineer 2010 IWATERS Database search March, 2010

United States Department of Agriculture, Forest Service 2008 Final Environmental Impact Statement for Surface Management of Gas Leasing and Development Jicarilla Ranger District, Carson National Forest, Rio Arriba County, New Mexico

United States Department of the Interior Bureau of Land Management 2003 Final Farmington Resource Management Plan and Final Environmental Impact Statement Farmington Field Office, Farmington, New Mexico

United States Geological Survey 2001 Ground Water Atlas of the United States Arizona, Colorado, New Mexico and Utah USGS Publication HA 730-C, <u>http://capp.water.usgs.gov</u>



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## New Mexico Office of the State Engineer Water Column/Average Depth to Water

tio records found

#### PLSS Search

Section(s) 22

Township 31N Range 08W

The data is furnished by the NMOSERSC and is addepted by the recipient with the expressed undersigned that the OSE ICC make no warranties expressed on implied, concerning, he alcuracy, completeness, refrability, usability, or suitability for any particular purpose of the data

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Page 1 of 1

WATER COLUMNI AVERAGE DEPTH TO WATER

Rosa Umt 634 B



# New Mexico Office of the State Engineer Water Column/Average Depth to Water

No records found

PLSS Search

Section(s) 23

Township 311 Range 06W

The data is furnished by the NMO3EHEC and is accepted by the recipient with the expressed understanding that the OSE ISC make no warranties expressed or implied concerning the accuracy contole eness reliability usability for suitability for any particulal purpose of the data.

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Page 1 of 1

WATER COLUMNI AVERAGE DEPTH TO WATER ŧ



Rosa Unit 634 B



**MMQonline Public Version** 



#### FEMA Map - 100-Year Floodplain:

According to FEMA records, this site is not located in a 100-year floodplain (see attached FEMA map)

#### Siting Criteria Compliance Demonstrations:

The Rosa Unit #634 Series wells are not located in an unstable area. The location is not situated over a mine or a steep slope. Excavated pit material will not be located within 300 feet of a continuously flowing water course or within 200 feet of any other significant water course, lakebed, sinkhole, or playa lake (see Siting Criteria Map II). The site is not within 500 feet of any private, domestic fresh water well or spring, or within 1000 feet of any other fresh water well or spring (see Siting Criteria Map I). The proposed pit will not be within any incorporated municipal boundaries or defined municipal freshwater well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. The location of the proposed pit is not within 300 feet of any permanent residence, school, hospital, institution, or church.



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# Williams Production Co., LLC Rosa Unit #634B (API: Pending) Drilling and Completion Closed-Loop & Temporary Pit System

In accordance with Rule 19 15 17 NMAC, the following plans describes the Design and Construction (D&C), the Maintenance and Operation (O&M) and Closure of a closedloop and temporary pit system to be used for the drilling and completion of the Rosa Unit 634B by Williams Production Co, LLC (WPX)

This system is required as the first portion of the well will be drilled with convention slickwater drilling mud, while the horizontal portion of the well will use an Oil-Based Mud system. The Temporary pit will be used to handle the slick-water muds and associated cuttings ONLY. Once the mud system is converted to OBM the Closed-Loop system will be used. The OBM cuttings and solids will require disposal at an offsite NMOCD permitted landfarm.

The Closed-loop portion of this system will be located immediately adjacent to the drilling/completion rig for solids and fluid handling and to prevent impacts to the immediate environment surrounding the wellsite. The temporary pit portion of the system will be used only for the slick-water mud system. The temporary pit will be on the multi-well pad site.

# **Design and Construction Plans**

#### Closed-Loop Design & Construction Plan:

The Closed-Loops System will consist of one or more temporary above-ground tank(s) suitable for holding the cuttings and fluids for rig operations and the planned Drilling/Completion activities. The tank(s) will be of sufficient volume to maintain a safe free-board between disposal of the liquids and solids from rig operations. Additional design considerations include

- 1 The Closed-loop System used by WPX will not entail a drying pad, below-grade tank or sump
- 2 Fencing is not required for an above-ground closed-loop system
- 3 It will be signed in compliance with 19 15 3 103 NMAC
- 4 A temporary pit will be used to store surplus liquids and handle the large volume of cutting anticipated while drilling the disposal well
- 5 Haul-off bins or similar containers will be used to temporarily hold dewatered solid prior to disposal either offsite at Envirotech (Permit NM-01-0011) or in the temporary pit if cuttings treated with a soil-burner meet TPH/BTEX levels. Written NMOCD approval of the soil-burner will be required prior to use of this disposal option.
- 6 Tanks will be placed on the active and disturbed areas of the new well location and within the existing ROW footprint

## Temporary Design & Construction Plan:

#### General Requirements

- WPX will be designed and constructed the temporary pit to contain surplus liquids and recovered solids associated with the drilling and completion of the referenced well which will prevent contamination of fresh water resources and protect public health and the environment
- 2 Prior to excavation of the pit, topsail will be stripped and stockpiled within the construction zone of the wellsite want within the ROW for later use during restoration
- 3 WPX will post a well sign, not less than 12" by 24", on the well site prior to construction of the temporary pit. This sign will list the operator on record, the location of the well site by unit letter/section/township/range, and emergency telephone number(s).
- 4 WPX shall construct all new fences utilizing 48" steel mesh field-fence (hogwire) on the bottom with a single strand of barbed wire on top. T-posts will be installed every 12 feet and corners shall be anchored utilizing a secondary T-post or similar bracing. The temporary pit will be fenced at all times excluding drilling/completion operations, at which time the "front" side of the fence will be temporarily removed for operational purposes.
- 5 WPX shall construction the temporary pit so that the foundation and interior slopes are firm and free of rocks, debris, sharp edges or irregularities to meet manufacturers' specifications and potential liner failure
- 6 WPX shall construct the pit so that the slopes are no steeper than two horizontal to one vertical. Where steeper slopes are required due to surface owner and right-a-way restriction, an engineer's certification of stability will be provided
- 7 The pit walls will be walked down by a crawler type tractor following construction and prior to liner installation
- 8 The temporary pit will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements
- 9 Geotextile will be installed beneath the liner when rocks, debris, sharp objects or irregularities cannot be avoided
- 10 The liner will be anchored in the bottom of a compacted earth-filled trench consistent with monufacturer's specifications and at least 18 inches deep
- 11 WPX will minimize liner seams and orient them up and down, not across slope faces. Factory seams will be used whenever possible. Field seams will be overlapped per manufacturers' specifications. WPX will minimize the number of field seams in corners and irregularly shaped areas.
- 12 The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides (secondary liner placed over the primary liner), and/or a manifold system
- 13 The pit shall be protected from run-on by construction of diversion ditches around the location or around the perimeter of the pit as necessary
- 14 The volume of the pit shall not exceed 10 acre-feet (77,580 bbl), including freeboard
- 15 No temporary blow pil will be needed for the drilling and completion of the reference well

# Closed-Loop Plan:

The Closed-Loops System will be operated and maintained to contain liquids and solids, to aid in the prevention of contamination of fresh water sources, in order to protect public health and the environment. The following steps will be followed to attain this goal.

- 1 The liquids will be transferred to and from the temporary above-ground rig tanks using vacuum trucks. Liquid levels will be maintained to provide required freeboard and prevent overtopping.
- 2 Solids in the Closed-Loop tank will be vacuumed out and disposed of at Envirotech (Permit Number NM-01-0011) on a periodic basis to prevent over topping
- 3 No hazardous waste, miscellaneous solid waste or debris will be discharged into or stored in the tank(s). Only fluids or cutting intrinsic to, used or generated by rig operations will be placed or stored in the tank(s).
- 4 The Division District office will be notified within 48 hours of the discovery of compromised integrity of the Closed-Loop System. Upon discovery of the compromised tank, repairs will be enacted immediately.
- 5 All of the above operations will be inspected and a log will be signed and dated During rig operations the inspection will be daily

## Temporary Pit Plan:

- 1 WPX will operate and maintain the temporary pit to contain liquids and solids associated with the drilling and completion of the referenced well which will prevent contamination of fresh water resources and protect public health and the environment
- 2 WPX will to the extent practical conserve drilling fluids for reuse by transferring liquids to other pits ahead of the rig. Any excess fluids that are not needed for well control during drilling or completion will be disposed by evaporation or transport to Basin Disposal, Inc in Bloomfield, New Mexico (Permit # NM-01-005)
- 3 WPX shall maintain at least two (2) feet of vertical freeboard for the temporary pit
- 4 WPX shall remove all free liquids from the temporary pit within 30 days from the date the drilling or completion rig is released
- 5 Only fluids and solids generated during the slick-water drilling/completion process will be discharged into the temporary pit. Other miscellaneous solid waste or debris will not be allowed
- 6 WPX will not discharge or store any hazardous waste as defined under RCRA 40CFR 261 and 19 15 1 7 W(3) NMAC in the temporary pit or associated Closed-Loop system
- 7 If any pit liner's integrity is compromised, or if any penetration of the liner occurs
  - a Above the liquid's surface, WPX shall repair the damage or replace the liner as necessary WPX will notify the NMOCD Azfec District Office by phone or email within 48-hours of discovery
  - b Leak below the liquid's surface, WPX shall suspend operations, remove all liquids above the damaged liner within 48 hours, and repair the damage or replace the liner WPX will notify and report to NMOCD as follows
    - I If the release is less than 25 bbls, the Aztec District Office by phone or email within 48-hours of discovery and repair
    - II If the release is suspected to be greater than 25 bbls, the Aztec District Office and the Environmental Bureau Chief by phone for immediate verbal notification pursuant to 19 15 3 116 B (1)(d)
  - c Written Spill/Release reports will be submitted on Form C-141 per 19 15 3 116 C NMAC within 15 days to the Aztec District Office

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- 8 The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides (secondary liner placed over the primary liner), and/or a manifold system
- 9 Diversion ditches, around the location or around the perimeter of the pit, shall be maintained as protection from run-on
- 10 WPX shall immediately remove any visible layer of oil from the surface of a temporary pit following cessation of drilling/completion operations. Oil absorbent booms will be utilized to contain and remove oil. An oil absorbent boom will stored on-site until the pit is covered.
- 11 WPX will inspect the temporary pit as follows to ensure compliance with this plan
  - a Daily during drilling or workover operations Inspections will be included with the IADC reports
  - b Weekly as long as liquids remain in the pit Electronic copies of the inspections will be kept at the WPX San Juan Basin office
  - c Copies of the inspections will be filed with the NMOCD Aztec District office upon pit closure

# Closure Plan

## Closed-Loop Plan:

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A.

The Closed-Loops System will be closed in accordance with 19.15.17.13. This will be done by

- WPX will vacuum removed any residual cutting and sludge from all temporary above-ground tanks and transporting cuttings to the Temporary Pit following rig operations
- 2 WPX will conserve drilling fluids for reuse by transferring liquids to other permitted pits ahead of the rig, or return the OBM fluids to the vendor for reuse
- 3 Removal of the tank(s) from the well location as part of the rig move
- 4 At time of well abandonment, the site will be reclaimed and re-vegetated to preexisting conditions when possible, or as stipulated by the surface management agency (i.e. USFS) in the APD conditions of approval

## Temporary Pit In-place Closure Plan

In accordance with Rule 19 15 17 13 NMAC, the following plan describes the in-place closure requirements of the temporary pit to be used with the reference well. Since the pit location is in a non-sensitive area with groundwater > 100 feet below the pit bottom the closure criteria for non-sensitive areas will be followed.

All closure activities will include proper documentation and will be submitted to OCD within 60 days of the pit closure on a Closure Report using Division Form C-144. The Report will include the following

- Details on Capping and Covering, where applicable
- Plot Plan (Pit Diagram)
- Inspection reports
- Sampling Results
- DIVISION FORM C-105 WELL COMPLETION OR RECOMPLETION REPORT AND LOG

Closure Procedure

- 1 All free standing liquids will be removed from the pit at the start of the closure process. To the extent practical WPX will attempt to conserve drilling fluids for reuse by transferring liquids to other permitted pits ahead of the rig. Any excess fluids that are not needed for well control during drilling or completion will be disposed by evaporation or transport to Basin Disposal, Inc in Bloomfield, New Mexico (Permit # NM-01-005)
- 2 The method of closure for the temporary pit will be in-place burial on-site closure as all the criteria in 19.15.17.13.B are met

- 3 The surface owner shall be notified of WPX's proposed closure plan using a means that provides proof of notice and consistent with the BLM-NMOCD MOU
- 4 Within six months of the "rig-off" status occurring WPX will ensure that the temporary pit is covered, recontoured and reseeding in progress consistent with the USFS APD conditions of approval
- 5 Notice of Closure will be given to the Aztec District office between 72 hours and one week of the scheduled closure via email or phone. The notification of closure will include the following: Operators Name, (WPX), Well Name and API Number, and Location (USTR).
- 6 The pit liner shall be removed above "mud level" after stabilization. Removal of the liner will consist of manually or mechanically cutting the liner at the mud level and removing all remaining liner. Care will be taken to remove "all" of the liner (Le anchored material). All excessive liner will be disposed of at a licensed disposal facility (probably San Juan Regional Landfill operated by Waste Management under NMED Permit SWM-052426).
- 7 Solidification of the remaining pit contents shall be achieved by mixing non-waste containing, earthen material. The solidification process will be accomplished use a combination of natural drying and mechanical mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed safe and stable. The mixing ratio shall not exceed 3 parts non-waste to 1 part pit contents.
- 8 A five-point composite sample will be taken of the pit using sampling tools and all samples tested per 19 15 17 13(B)(1)(b) NMAC. In the event that the criteria are not met (See Table 1), all contents will be handled per 19 15 17 13(B)(1)(a) (i.e. alg and haul to a Division-approved facility). Approval to haul will be requested of the Aztec District office prior to initiation.

Components	Testing Methods	Closure Limits (mg/Kg)
Benzene	EPA SW-846 Method 8021B or 8260B	02
BTEX	EPA SW-846 Method 8021B or 8260B	50
TPH	EPA SW-846 Method 418 1 modified	2500
GRO/DRO	EPA SW-846 Method 8015M (GRO/DRO)	500 *
Chlorides	EPA SW-846 Method 300 1	1000

Table 1 Closure Criteria for Temporary Pits in Non-sensitive Areas

- 9 Upon completion of solidification and testing, the pit area will be backfilled with nonwaste earthen material compacted to native conditions to enable effective revegetation for successful evapotranspiration. A minimum of four feet of cover including replacement of one foot of suitable material to establish vegetation, or the background thickness of topsoil, whichever is greater.
- 10 Following cover, the site will be recontoured to meet the Surface Management Agency USFS APD conditions of approval requirements. Re-contouring will attempt to match fit, shape, line form, and texture of the surrounding geography. Re-shaping will include drainage control, prevent ponding, and minimize erosion. Natural drainages will be unimpeded and stormwater Best Management Practices (BMPs) will be used to aid in soil stabilization and protection surface water quality.
- 11 Notification will be sent to the Aztec District office when the reclaimed area is seeded

- 12 WPX shall seed the disturbed areas the first growing season after the pit is covered Seeding will be accomplished via drilling on the contour whenever practical, or by other Division-approved methods. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintained that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs. Note: WPX assumes the seeding stipulations including mix and seeding methods specified by the USFS as the Surface Management Agency and as part of the APD are Divisionapproved methods unless notified by the Division of their unacceptability.
- 13 The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the on site burial upon the abandonment of all wells on the pad. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the on site burial of the temporary pit. The plate will be easily removable and a four-foot tall riser will be threaded into the top of the collar marker and welded around the base with the operations information at the time of all wells on the pad abandoned. The information will include Operator Name, Lease Name, Well Name, and number, USTR, and an indicator that the marker is an onsite pit burial location.

#### Lane, Myke

From	Lane, Myke
Sent	Tuesday, March 09, 2010 10 47 AM
То	Mark Kelly (Mark_Kelly@nm blm gov)
Cc	Powell, Brandon, EMNRD, Meador, Tasha , Riley, Heather
Subject.	Landowner Notice - Rosa 634B Pit Closure

This correspondence is to notify the BLM that Williams Production is planning to use a temporary pit associated with the drilling and completion of the reference well and following discontinued use of the pit will close by onsite burial The planned closure is consistent with the Surface Use Plan submitted with Williams APD

4

It should be noted that this well will be drilled using a slick-water mud system for the vertical section of the well — This mud system will use the Temporary pit

A Oil-Based Mud system will be used for the horizontal section A Closed-Loop mud control system will be used and no onsite waste disposal is planned for the solids from this CLP

This notice is to comply with the NMOCD Pit Rule 19 15 17 NMAC requirement to notify surface owners of the operator's intended closure method If site conditions do not allow Williams to close in-place, we will provide your office with prior notice should the USFS have any concerns

Please contact us if there are any questions or additional information is required

Michael K (Myke) Lane, PE EH&S Team Leader - San Juan Basin Operations 721 S Main/PO Box 640, Aztec, NM 87410 (505) 634-4219(off), -4205(fax), 330-3198(cell)

"The problems we face cannot be resolved at the same level of thinking as that which gave rise to them!"---shared with me by Brent Hale District J 1625 N. French Dr., Hobbs, NM 88240 District JJ 1301 W. Grand Avenue, Artesia: NM 88210 District III 1000 Rio Brazos Road Aztee, NM 87410 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505

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State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr
Santa Fe, NM 87505

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office

<u>Selle</u> <u>Pit, Closed-Loop System, Below-Grade Tank, or</u> Proposed Alternative Method Permit or Closure Plan Applica	tion
Type of action Permit of a pit, closed-loop system, below-grade tank, or proposed altern Closure of a pit, closed-loop system, below-grade tank, or proposed alter Modification to an existing permit Closure plan only submitted for an existing permitted or non-permitted p	ative method native method nt, closed-loop system,
below-grade tank, or proposed alternative method	and an all and all a survey of
Please be advised that approval of this request does not relieve the operator of hability should operations result in pollution of surface environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority	re water, ground water or the ty's rules, regulations or ordinances
Operator OGRID #	120782
Address PO Box 640 / 721 S Main Aztec, NM 87410	
Facility or well name <u>Rosa Unit 635C</u>	
API Number OCD Permit Number	
U/L or Qtr/Qtr _E Section _21 Township _31N Range6W County	Rio Arriba
Center of Proposed Design Latitude <u>36.88730N</u> Longitude <u>-107.37528W</u>	NAD []1927 [[1983
Temporary 🛛 Drilling 🗋 Workover Permanent 📄 Emergency 🗋 Cavitation 📄 P&A 🖾 Lined 📄 Unlined Liner type "Thickness20nul 🖾 LLDPE 📄 HDPE 📋 PVC 📄 Other 🖾 String-Reinforced Liner Seams 🖾 Welded 🖾 Factory 📄 Other Volume 12000_bbl Dimensions L_80'	_ x W_40'_ x D_20'_
▷     ○       ○     Closed-loop System       Subsection 11 of 19.15.17.11 NMAC       □     Type of Operation       □     P&A       ○     Dulling a new well       ○     Workover or Dulling (Applies to activities which require prior at	puroval of a permut or notice of
Intent)  Drying Pad Above Ground Steel Tanks A Haul-off Bins Other Lined Dublined Liner type Thickness20mil A LLDPE HDPE PVC Other Liner Seams A Welded A Factory Other	A SOLUTION OF A SOLUTIONO OF A SOLUTIC
Below-grade tank Subsection L of 1945 1741 NMAC Volumebbl_Type of fluid	E OIL CONS DIV DIST 3 3
Taak Construction material	121297 c7 +7 E226
🔲 Secondary containment with leak detection 🔲 Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off	03000
Visible sidewalls and liner 🔲 Visible sidewalls only 🗌 Other	
Liner type Thickness mil HDPE PVC Other	~
Submittal of an exception request is required - Exceptions must be submitted to the Santa Fe Environmental Bureau office	for consideration of approval

Rosa Und 6350

Exhibit D

Fencing Subsection D of 1945 1741 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)

Chain link, six feet in height, two strands of barbed wite at top (Required if located within 1000 feet of a permanent residence, school hospital, institution or church)

E Four foot height, four strands of barbed wire evenly spaced between one and four feet

Alternate Please specify As per USFS specifications

Netting Subsection E of 1915-1711 NMAC (Applies to permanent pits and permanent open top tanks)

Screen Netting Other

2

8

Monthly inspections (If netting or screening is not physically feasible)

Signs Subsection C of 1915 1711 NMAC

12"x 24", 2 lettering, providing Operator's name, site location, and emergency telephone numbers

Signed in compliance with 19 15 3 103 NMAC

Administrative Approvals and Exceptions Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance Please check a box if one or more of the following is requested, if not leave blank Administrative approval(s). Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau consideration of approval Exception(s). Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval	i office for
<sup>10</sup> <u>String Criteria (regarding permitting)</u> : 191517 10 NMAC Instructions. The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of access material are provided below Requests regarding changes to certain siting criteria may require administrative approval from the appr office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of a Applicant must attach justification for request Please refer to 19151710 NMAC for guidance Siting criteria does not apply to dry above-grade tanks associated with a closed-loop system	eptable source opriate district approval ying pads or
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank - NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells	🗌 Yes 🛛 No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark) 2. Topographic map, Visual inspection (certification) of the proposed site	🗋 Yes 🛛 No
Within 300 fect from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (Applies to temporary, emergency, or cavitation pits and below-grade tanks) - Visual inspection (certification) of the proposed site. Aerial photo, Satellite image	□ Yes ⊠ No □ NA
Within 1000 feet from a permanent residence school, hospital, institution, or church in existence at the time of initial application (Applies to permanent pits) - Visual inspection (certification) of the proposed site, Aerial photo, Satellite image	Yes No NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application - NM Office of the State Engineer - iWATERS database search, Visual inspection (certification) of the proposed site	🗆 Yes 🛛 No
Within incorporated numerical boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978. Section 3-27-3, as amended - Written confirmation or verification from the municipality. Written approval obtained from the municipality	🗋 Yes 🔯 No
Within 500 feet of a wetland - US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site	🗌 Yes 🛛 No
Within the area overlying a subsurface mine - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	🗋 Yes 🛛 No
<ul> <li>Unstable area</li> <li>Engineering measures incorporated into the design, NM Bureau of Geology &amp; Mineral Resources, USGS, NM Geological Society, Topographic map</li> </ul>	🗌 Yes 🛛 No
Within a 100-year floedplain	Tes No

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11       Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist       Subsection B of 1915 17.9 NMAC         Instructions       Each of the following items must be attached to the application       Please indicate, by a check mark in the box, that the documents are attached.         Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 1915 17.9 NMAC       Sting Criteria Compliance Demonstrations - based upon the requirements of Paragraph (2) of Subsection B of 1915 17.9 NMAC         Sting Criteria Compliance Demonstrations - based upon the appropriate requirements of 1915 17.10 NMAC       Design Plan - based upon the appropriate requirements of 1915 17.10 NMAC         Operating and Maintenance Plan - based upon the appropriate requirements of 1915 17.12 NMAC       Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of 1915 17.12 NMAC         Previously Approved Design (attach copy of design)       AP1 Number       or Permit Number
11       Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 1915179 NMAC         Instructions: Each of the following items must be attached to the application Please inducate, by a check mark in the box, that the documents are attached         Image: Store and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 1915179         Store Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19 is 1710 NMAC         Design Plan - based upon the appropriate requirements of 19 151712 NMAC         Operating and Maintenance Plan - based upon the appropriate requirements of 19 151712 NMAC         Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19 15179 NMAC         and 19 151713 NMAC
Previously Approved Design (attach copy of design) API Number
Proviously Approved Operating and Maintenance Plan API Number (Applies only to closed-loop system that use
above ground steel tanks or haul-off bins and propose to implement waste removal for closure)
Permanent Pits Permit Application Checklist       Subsection B of 1915 17.9 NMAC         Instructions, Each of the following items must be attached to the application       Please indicate, by a check mark in the box, that the documents are attached         Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 1915 17.9 NMAC         Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 1915 17.10 NMAC         Climatological Factors Assessment         Certified Engineering Design Plans - based upon the appropriate requirements of 1915 17.11 NMAC         Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 1915 17.11 NMAC         Leak Detection Design - based upon the appropriate requirements of 1915 17.11 NMAC         Quality Control/Quality Assersance Construction and Installation Plan         Operating and Maintenance Plan - based upon the appropriate requirements of 1915 17.11 NMAC         Nuisance or Hazardons Odors, including H <sub>2</sub> S, Prevention Plan         Emergency Response Plan         Oil Field Waste Stream Characterization         Monitoring and Inspection Plan         Emergency Response Plan         Oil Field Waste Stream Characterization         Closure Plan - based upon requirements of Subsection C of 1915 17.9 NMAC and 1915 17.13 NMAC
Proposed Closure       19151713 NMAC         Instructions       Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan         Type       Drilling       Workover       Emergency       Cavitation       P&A       Permanent Pit       Below-grade Tank       Closed-loop System         Alternative       Waste Excavation and Removal       Waste Removal (Closed-loop systems only)       Waste Removal (Closed-loop systems only)         Ø       On-site Closure Method (Only for temporary pits and closed-loop systems)       In-place Burnal       On-site French Burnal         Ø       Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)
15
Waste Excavation and Removal Closure Plan Checklist (1915 1713 NMAC) Instructions Each of the following items must be attached to the closure plan Please indicate, by a check mark in the box, that the documents are attached.                Protocols and Procedures - based upon the appropriate requirements of 1915 1713 NMAC             Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 1915 1713 NMAC             Disposal Facility Name and Pertuit Number (for liquids, drilling fluids and drill cuttings)             Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 1915 1713 NMAC             Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 1915 1713 NMAC             Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 1915 1713 NMAC

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<sup>16</sup> <u>Waste Removal Closure For Closed-Joop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only</u> (1915) Instructions Please indentify the facility or facilities for the disposal of hauds, drilling fluids and drill outines. Use attachme	7 13 D NMAC) put if more than two
facilities are required	
Disposal Facility Name Envirotech Disposal Facility Permit NumberNM-01-0011_	
Disposal Facility Name Disposal Facility Permit Number	
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for futu Yes (If yes, please provide the information below) X No	re service and operations?
Required for impacted areas which will not be used for future service and operations         Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 19 15 17 13         Re-vegetation Plan - based upon the appropriate requirements of Subsection L of 19 15 17 13 NMAC         Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC	NMAC
17 <u>Siting Criteria (regarding on-site closure methods only)</u> 1945-1710 NMAC Instructions, Each siting criteria requires a demonstration of compliance in the closure plan Recommendations of acceptable provided below Requests regarding changes to certain siting criteria may require administrative approval from the appropriat considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval demonstrations of equivalency are required Please refer to 1915 1710 NMAC for guidance	e source material are e district office or may he Jushfications and/or
Ground water is less than 50 feet below the bottom of the buried waste - NM Office of the State Engineer - WATERS database search USGS, Data obtained from nearby wells	□ Yes ⊠ No □ NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells	⊠ Yes □ No □ NA
Ground water is more than 100 feet below the bottom of the buried waste - NM Office of the State Engineer - (WATERS database search, USGS, Data obtained from nearby wells	□ Yes ⊠ No □ NA
Within 300 teet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or pla lake (measured from the ordinary high-water mark) - Topographic map, Visual inspection (certification) of the proposed site	aya 🗌 Yes 🛛 No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application Visual inspection (certification) of the proposed site. Aerial photo, Satellite image	🗆 Yes 🛛 No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application - NM Office of the State Engineer - iWATERS database. Visual inspection (certification) of the proposed site	on Yes 🛛 No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinane adopted pursuant to NMSA 1978, Section 3-27-3, as amended - Written confirmation or verification from the municipality. Written approval obtained from the municipality.	e 🗌 Yes 🛛 No
Within 500 feet of a weiland - US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site	🗌 Yen 🕅 No
Within the area overlying a subsurface mine - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	🗋 Yes 🛛 No
<ul> <li>Within an unstable area</li> <li>Engineering measures incorporated into the design, NM Bureau of Geology &amp; Mineral Resources, USGS, NM Geological Society, Topographic map</li> </ul>	🗌 Yen 🛛 No
Within a 100-year floodplain - FEMA map	🗋 Yes 🛛 No
<ul> <li>18         On-Site Closure Plan Checklist: (19151713 NMAC) Instructions Each of the following items must be attached to the closure by a check mark in the box, that the documents are attached.         Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19151710 NMAC         Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19151713 NMAC         Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19151711 NMAC         Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19151713 NMAC         Protocols and Procedures - based upon the appropriate requirements of 19151713 NMAC     </li> </ul>	re plan Please indicute, 1915 1711 NMAC

Protocols and Procedures - based upon the appropriate requirements of 1915 1713 NMAC.
 Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 1915 1713 NMAC.
 Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 1915 1713 NMAC.
 Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved).
 Soil Cover Design - based upon the appropriate requirements of Subsection H of 1915 1713 NMAC.
 Re-vegetation Plan - based upon the appropriate requirements of Subsection 1 of 1915 1713 NMAC.
 Site Reclamation Plan - based upon the appropriate requirements of Subsection 0 of 1915 1713 NMAC.

Operator Application Certification 1 hereby certify that the information submitted with this application is true, accurate an	and complete to the best of my knowledge and behef
Name (Print) Michael K. Lane	Lite Sr EH & S Specialist
	3/2/1
Signature Contraction	Date
e-mail addressmyke lane@withams.com	Telephone505-635-4219
OCD Approval         Permit Application (including closure plan)         Closure Plan (including closure plan)	(only) [] OCD Conditions (see attachment)
OCD Representative Signature OStundon Fell	Approval Date 3/16/10
Inte Eurino/spec OC	CD Permit Number
<sup>21</sup> Closure Report (required within 60 days of closure completion) <sup>21</sup> Subsection K of Instructions. Operators are required to obtain an approved closure plan prior to imp The closure report is required to be submitted to the division within 60 days of the co section of the form until an approved closure plan has been obtained and the closure	of 19 15 17 13 NMAC nplementing any closure activities and submitting the closure report completion of the closure activities – Please do not complete this ire activities have been completed
Closure Method     Waste Excavation and Removal On-Site Closure Method     Alternative     If different from approved plan, please explain	e Closure Method 🔲 Waste Removal (Closed-loop systems only)
<sup>23</sup> <u>Closure Report Regarding Waste Removal Closure For Closed-loop Systems Tha</u> Instructions. Please indentify the facility or facilities for where the liquids, drilling j two facilities were utilized.	nat Utilize Above Ground Steel Lanks or Haul-off Bins Only: g fluids and drill cuttings were disposed Use attachment if more than
Disposal Facility Name Di	Disposal Facility Permit Number
Disposal Facility Name Dis	Disposal Facility Permit Number
Were the closed-loop system operations and associated activities performed on or in an Yes (If yes, please demonstratic compliance to the items below) No	areas that will not be used for future service and operations?
Required for impacted areas which will not be used for future service and operations         Site Reclamation (Photo Documentation)         Soil Backfilling and Cover Installation         Re-vegetation Application Rates and Seeding Technique	
24 Closure Bruart Attachment Checklist Instructions Fach of the following stance	converte attached to the day was support. Discourse desite the sheet
mark in the box, that the documents are attached.  Proof of Closure Notice (surface owner and division)  Proof of Deed Notice (required for on-site closure)  Ret Block (for on-site closure)	, musi de unucirca lo ine closare report - i lease maicare, ny a check
Confirmation Sampling Analytical Results (if applicable)     Waste Material Sampling Analytical Results (required for on-site closure)     Disposal Facility Name and Permit Number	
Soil Backfilling and Cover Installation	
<ul> <li>Ke-vegetation Application Rates and Seeding Technique</li> <li>Site Reclamation (Photo Documentation)</li> </ul>	
On-site Closure Location Latitude Longitude	*NAD []]1927 [] 1983
24 Operator Closure Certification	
Thereby certify that the information and attachments submitted with this closure repor- belief I also certify that the closure complies with all applicable closure requirements	ort is true, accurate and complete to the best of my knowledge and ts and conditions specified in the approved closure plan
Name (Print)	Tule
Signature	Date
e-mail address	Telephone

District I 1625 N French Dr. Hobos NM BB240 En District II 1301 W Grand Avenue Antesia, NM B8210 District III 1000 Rid Brazos Rd. Aztec NM 87410 District IV 1220 S St. Francis Dr. Santa Fe, NM 87505

#### State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION 1220 South St Francis Dr Santa Fe, NM 87505 Form C-102 Revised October 12 2005 Instructions on back Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

AMENDED REPORT

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

;	PI Numbe	r		'Pool Co 97232	de	ο	PCOL Nan BASIN MA		
Property 1703	Code 3		<u>\</u>		Property Name ROSA UNIT			Well Number 635C	
'csàid 12078	5			WILL	'Operator IAMS PRODU	Name ICTION COMPA	NY		Elevation 64181
					<sup>10</sup> Surface	Location			
u or joi no E	Section 21	Township 31N	Renge 5W	Lot lon	Feet from the 1890	NORTH	Feet from the	East/Hest line WEST	RIO ARRIBA
		11 E	Bottom	Hole L	location I	f Different	From Surf	асе	
u or lot no E	Section 20	104msh1p 31N	Parage 5W	Lot Idn	Feet from the 1976	North/South Jane NORTH	Feet from the 20	East/Hest line WEST	RIÓ ARRIBA
<sup>12</sup> Dedicated Acres	320	0 Acres	s - (N,	/2)	<sup>13</sup> Joint on Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Orden No	<u> </u>	

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



Rosa 6355C



D--- 1-250

#### Hydrogeological Report Williams Production Company, LLC Rosa Unit #635 Series

#### Regional Hydrological Context

#### Referenced Well Location

The referenced well and pit is located on Bureau of Land Management land within Farmington Field Office (FFO) management jurisdiction in Rio Arriba County, New Mexico. This site is positioned in the northeastern pertion of the San Juan Basin, an asymmetrical syncline that extends from northwestern New Mexico into southwestern Colorado (Carson National Forest FEIS, 2008). Elevation of the referenced well is approximately 6419 feet MSL.

#### General Regional Groundwater Description.

As a portion of the San Juan Basin, the FFO administrative area is underlain by sandstone aquifers of the Colorado Plateau. The primary aquifer of potential concern at this location is the Uinta-Animas Aquifer, composed primarily of Lower Tertiary rocks in the San Juan Basin. The aquifer consists of the San Jose Formation, the underlying Animas formation and its lateral equivalent, the Nacimiento formation, and the Ojo Alamo Sandstone. The thickness of the Uinta-Animas aquifer generally increases toward the central part of the Basin. In this region, the maximum thickness of the aquifer is approximately 3500 feet (USGS, 2001). This aquifer contains fresh to moderately saline water.

Groundwater generally flows toward the San Juan River and it tributaries, where it becomes alluvial groundwater or is discharged to stream flow. Additional information regarding the hydrogeologic setting can be found in the provided references.

#### Site Specific Information:

	Surface Hydrology. The proposed pit is located on a mid-elevation,
	northeast-facing slope associated with Laguna Seca Mesa. Drainage
	flows immediately to the northeast into an ephemeral wash, then into
	Cabresto Canyon approximately 0.6 miles to the north
1 <sup>st</sup> Water Bearing Formation:	San Jose, Tertiary
Formation Thickness:	Approximately 1,900 ft
Underlying Formation.	Nacimiento, Tertiary
Depth to Groundwater:	Depth to groundwater is estimated at greater than 100 feet bgs
	Within a one-mile radius of this location, there are no iWATERS
	wells with recorded water depth information. However, cathodic data
	associated with the Rossa Unit Nos 12B (approximately 1,696 feet
	from pit), 18 (approximately 110 feet from pit) and 201
	(approximately 612 feet from pit) show depth to moisture between
	110 and 300 feet (see Siting Criteria Map I for details)

#### References.

Alten, Erin Undated Colorado Plateau Aquifers http://academic.emporia.edu/schulmem/hydro/TERM%20PROJEC1S/2007/Allen/Aquifer.html

New Mexico Office of the State Engineer 2010 (WATERS Database search, March, 2010)

United States Department of Agriculture, Forest Service 2008 Final Environmental Impact Statement for Surface Management of Gas Leasing and Development Jicarilla Ranger District, Carson National Forest, Rio Arriba County, New Mexico

United States Department of the Interior Bureau of Land Management 2003 Final Farmington Resource Management Plan and Final Environmental Impact Statement Farmington Field Office, Farmington, New Mexico

United States Geological Survey 2001 Ground Water Atlas of the United States Arizona Colorado, New Mexico and Utah USGS Publication HA 730-C, <u>http://capp.water.usgs.gov</u>



# New Mexico Office of the State Engineer Water Column/Average Depth to Water

No records found

PLSS Search

Section(s) 21

Township 31N Range 08W

The data is furnished by the NNOSEIISC and is accepted by the recipient with the expressed uncers anoing that the OSEIISC make no warranties expressed or mighed concerning he accuracy controle eness reliability usability for any particular purpose of the data 3/4/10.9.34.4M Poge 1 of 1 WATER COLUMNY AVEPAGE DEPTH TO WATER

Pige 10 of 21

Rosa Unit 635C



# New Mexico Office of the State Engineer Water Column/Average Depth to Water

No records found

PLSS Search

Section(s) 10

Township 3114 Range 06W

The data is furnished by the NMOSEIISC and is accepted by the recipient with the expressed understanding that the OSEIISC make no warranties expressed or implied concerning the accuracy contole eness reliability usability or suitability for any particular purpose of the data

3/4/10 9 37 AM

Page 1 of 1

WATER COLUMNI AVERAGE DEPTH TO WATER

Rosa Unit 6350





**MMQonline Public Version** 





60

**8**0

20 MILES

Page 14 of 21

#### FEMA Map - 100-Year Floodplain

According to FEMA records, this site is not located in a 100-year floodplain (see attached FEMA map)

#### Siting Criteria Compliance Demonstrations:

The Rosa Unit #635 Series wells are not located in an unstable area. The location is not situated over a mine or a steep slope. Excavated pit material will not be located within 300 feet of a continuously flowing water course or within 200 feet of any other significant water course, lakebed, sinkhole, or playa lake (see Siting Criteria Map II). The site is not within 500 feet of any reported riparian areas or wetlands (see attached USFWS wetland map), within 500 feet of any private, domestic fresh water well or spring, or within 1000 feet of any other fresh water well or spring (see Siting Criteria Map I). The proposed pit will not be within any incorporated municipal boundaries or defined municipal freshwater well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. The location of the proposed pit is not within 300 feet of any permanent residence, school hospital, institution, or church

2



# Williams Production Co., LLC Rosa Unit #635C

Drilling and Completion Closed-Loop & Temporary Pit System

In accordance with Rule 19 15 17 NMAC, the following plans describes the Design and Construction (D&C), the Maintenance and Operation (O&M) and Closure of a closed-loop and temporary pit system to be used for the drilling and completion of the Rosa Unit 634B by Williams Production Co, LLC (WPX)

This system is required as the first portion of the well will be drilled with convention slick-water drilling mud, while the horizontal portion of the well will use an Oil-Based Mud system. The Temporary pit will be used to handle the slick-water muds and associated cuttings ONLY Once the mud system is converted to OBM the Closed-Loop system will be used. The OBM cuttings and solids will require disposal at an offsite NMOCD permitted landfarm.

The Closed-loop portion of this system will be located immediately adjacent to the drilling/completion rig for solids and fluid handling and to prevent impacts to the immediate environment surrounding the wellsite. The temporary pit portion of the system will be used only for the slick-water mud system. The temporary pit will be on the multi-well pad site.

## Design and Construction Plans

#### **Closed-Loop Design & Construction Plan:**

The Closed-Loops System will consist of one or more temporary above-ground tank(s) suitable for holding the cuttings and fluids for rig operations and the planned Drilling/Completion activities. The tank(s) will be of sufficient volume to maintain a safe free-board between disposal of the liquids and solids from rig operations. Additional design considerations include

- 1 The Closed-loop System used by WPX will not entail a drying pad, below-grade tank or sump
- 2 Fencing is not required for an above-ground closed-loop system
- 3 If will be signed in compliance with 19 15 3 103 NMAC
- 4 A temporary pit will be used to store surplus liquids and handle the large volume of cutting anticipated while drilling the disposal well
- 5 Haul-off bins or similar containers will be used to temporarily hold dewatered solid prior to disposal either offsite at Envirotech (Permit NM-01-0011) or in the temporary pit if cuttings treated with a soil-burner meet TPH/BTEX levels. Written NMOCD approval of the soil-burner will be required prior to use of this disposal option.
- 6 Tanks will be placed on the active and disturbed areas of the new well location and within the existing ROW footprint

## Temporary Design & Construction Plan

#### General Requirements

- 1 WPX will be designed and constructed the temporary pit to contain surplus liquids and recovered solids associated with the drilling and completion of the referenced well which will prevent contamination of fresh water resources and protect public health and the environment
- 2 Prior to excavation of the pit, topsoil will be stripped and stockpiled within the construction zone of the wellsite want within the ROW for later use during restoration.
- 3 WPX will post a well sign, not less than 12" by 24", on the well site prior to construction of the temporary pit. This sign will list the operator on record, the location of the well site by unit letter/section/township/range, and emergency telephone number(s).
- 4 WPX shall construct all new fences utilizing 48" steel mesh field-fence (hogwire) on the bottom with a single strand of barbed wire on top. T-posts will be installed every 12 feet and corners shall be anchored utilizing a secondary T-post or similar bracing The temporary pit will be fenced at all times excluding drilling/completion operations, at which time the "front" side of the fence will be temporarily removed for operational purposes
- 5 WPX shall construction the temporary pit so that the foundation and interior slopes are firm and free of rocks, debris, sharp edges or irregularities to meet manufacturers' specifications and potential liner failure
- 6 WPX shall construct the pit so that the slopes are no steeper than two horizontal to one vertical. Where steeper slopes are required due to surface owner and right-a-way restriction, an engineer's certification of stability will be provided.
- 7 The pit walls will be walked down by a crawler type tractor following construction and prior to liner installation
- 8 The temporary pit will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements
- 9 Geotextile will be installed beneath the liner when rocks, debris, sharp objects or irregularities cannot be avoided
- 10 The liner will be anchored in the bottom of a compacted earth-filled trench consistent with manufacturer's specifications and at least 18 inches deep
- 11 WPX will minimize liner seams and orient them up and down, not across slope faces Factory seams will be used whenever possible. Field seams will be overlapped per manufacturers' specifications. WPX will minimize the number of field seams in corners and irregularly shaped areas.
- 12 The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides (secondary liner placed over the primary liner), and/or a manifold system
- 13 The pit shall be protected from run-on by construction of diversion ditches around the location or around the perimeter of the pit as necessary
- 14 The volume of the pit shall not exceed 10 acre-feet (77,580 bbl), including freeboard
- 15 No temporary blow pit will be needed for the drilling and completion of the reference well

# Maintenance & Operafing Plan

#### Closed-Loop Plan:

The Closed-Loops System will be operated and maintained to contain liquids and solids, to aid in the prevention of contamination of fresh water sources, in order to protect public health and the environment. The following steps will be followed to attain this goal.

- The liquids will be transferred to and from the temporary above-ground rig tanks using vacuum trucks. Liquid levels will be maintained to provide required free-board and prevent overtopping.
- 2 Solids in the Closed-Loop tank will be vacuumed out and disposed of at Envirotech (Permit Number NM-01-0011) on a periodic basis to prevent over topping

- 3 No hazardous waste, miscellaneous solid waste or debris will be discharged into or stored in the tank(s). Only fluids or cutting intrinsic to, used or generated by rig operations will be placed or stored in the tank(s).
- 4 The Division District office will be notified within 48 hours of the discovery of compromised integrity of the Closed-Loop System. Upon discovery of the compromised tank, repairs will be enacted immediately.
- 5 All of the above operations will be inspected and a log will be signed and dated During rig operations the inspection will be daily

#### Temporary Pit Plan

- WPX will operate and maintain the temporary pit to contain liquids and solids associated with the drilling and completion of the referenced well which will prevent contamination of fresh water resources and protect public health and the environment
- 2 WPX will to the extent practical conserve drilling fluids for reuse by transferring liquids to other pits ahead of the rig. Any excess fluids that are not needed for well control during drilling or completion will be disposed by evaporation or transport to Basin Disposal, Inc in Bloomfield, New Mexico (Permit # NM-01-005)
- 3 WPX shall maintain at least two (2) feet of vertical freeboard for the temporary pit
- 4 WPX shall remove all free liquids from the temporary pit within 30 days from the date the drilling or completion rig is released
- 5 Only fluids and solids generated during the slick-water drilling/completion process will be discharged into the temporary pit. Other miscellaneous solid waste or debris will not be allowed
- 6 WPX will not discharge or store any hazardous waste as defined under RCRA 40CFR 261 and 19.15.17 W(3) NMAC in the temporary pit or associated Closed-Loop system
- 7 If any pit liner's integrity is compromised, or if any penetration of the liner occurs
  - a Above the liquid's surface, WPX shall repair the damage or replace the liner as necessary WPX will notify the NMOCD Aztec District Office by phone or email within 48-hours of discovery
  - b Leak below the liquid's surface, WPX shall suspend operations, remove all liquids above the damaged liner within 48 hours, and repair the damage or replace the liner. WPX will notify and report to NMOCD as follows.
    - I If the release is less than 25 bbls, the Aztec District Office by phone or email within 48-hours of discovery and repair
    - If the release is suspected to be greater than 25 bbls, the Aztec District Office and the Environmental Bureau Chief by phone for immediate verbal
    - notification pursuant to 19 15 3 116 B (1)(d)
  - c Written Spill/Release reports will be submitted on Form C-141 per 19 15 3 116 C NMAC within 15 days to the Aztec District Office
- 8 The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides (secondary liner placed over the primary liner), and/or a manifold system
- 9 Diversion ditches, around the location or around the perimeter of the pit, shall be maintained as protection from run-on
- 10 WPX shall immediately remove any visible layer of oil from the surface of a temporary pit following cessation of drilling/completion operations. Oil absorbent booms will be utilized to contain and remove oil. An oil absorbent boom will stored on-site until the pit is covered.
- 11 WPX will inspect the temporary pit as follows to ensure compliance with this plan
  - a Daily during drilling or workover operations. Inspections will be included with the IADC reports
  - b Weekly as long as liquids remain in the pit Electronic copies of the inspections will be kept at the WPX San Juan Basin office!
  - c Copies of the inspections will be filed with the NMOCD Aztec District office upon pit closure

### Closed-Loop Plan:

The Closed-Loops System will be closed in accordance with 19.15.17.13. This will be done by

- WPX will vacuum removed any residual cutting and sludge from all temporary above-ground tanks and transporting cuttings to the Temporary Pit following rig operations
- 2 WPX will conserve drilling fluids for reuse by transferring liquids to other permitted pits ahead of the rig, or return the OBM fluids to the vendor for reuse
- 3 Removal of the tank(s) from the well location as part of the rig move
- At time of well abandonment, the site will be reclaimed and re-vegetated to preexisting conditions when possible, or as stipulated by the surface management agency (i.e. USFS) in the APD conditions of approval

#### Temporary Pit In-place Closure Plan

In accordance with Rule 19 15 17 13 NMAC, the following plan describes the in-place closure requirements of the temporary pit to be used with the reference well. Since the pit location is in an area with groundwater > 50 feet below the pit bottom the closure criteria for these vulnerable areas will be followed.

All closure activities will include proper documentation and will be submitted to OCD within 60 days of the pit closure on a Closure Report using Division Form C-144. The Report will include the following

- Details on Capping and Covering, where applicable
- Plot Plan (Pit Diagram)
- Inspection reports
- Sampling Results
- Division Form C-105 WELL COMPLETION OR RECOMPLETION REPORT AND LOG

#### Closure Procedure

- 1 All free standing liquids will be removed from the pit at the start of the closure process. To the extent practical WPX will attempt to conserve drilling fluids for reuse by transferring liquids to other permitted pits ahead of the rig. Any excess fluids that are not needed for well control during drilling or completion will be disposed by evaporation or transport to Basin Disposal, Inc in Bloomfield, New Mexico. (Permit # NM-01-005)
- 2 The method of closure for the temporary pit will be in-place burial on-site closure as all the criteria in 1915 1713 B are met
- 3 The surface owner shall be notified of WPX's proposed closure plan using a means that provides proof of notice and consistent with the BLM-NMOCD MOU
- 4 Within six months of the "rig-off" status occurring WPX will ensure that the temporary pit is covered, recontoured and reseeding in progress consistent with the USFS APD conditions of approval
- 5 Notice of Closure will be given to the Aztec District office between 72 hours and one week of the scheduled closure via email or phone. The notification of closure will include the following: Operators Name (WPX), Well Name and API Number, and Location (USTR).
- 6 The pit liner shall be removed above "mud leve!" after stabilization. Removal of the liner will consist of manually or mechanically cutting the liner at the mud level and removing all remaining liner. Care will be taken to remove "ail" of the liner (Le anchored material). All excessive liner will be disposed of at a licensed disposal facility (probably San Juan Regional Landtill operated by Waste Management under NMED Permit SWM-052426).

- 7 Solidification of the remaining pit contents shall be achieved by mixing non-waste containing, earthen material. The solidification process will be accomplished use a combination of natural drying and mechanical mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed safe and stable. The mixing ratio shall not exceed 3 parts non-waste to 1 part pit contents.
- 8 A five-point composite sample will be taken of the pit using sampling tools and all samples tested per 19.15.17.13(B)(1)(b) NMAC. In the event that the criteria are not met (See Table 1), all contents will be handled per 19.15.17.13(B)(1)(a) (i.e. dig and haul to a Division-approved facility). Approval to haul will be requested of the Aztec District office prior to initiation.

Components	Testing Methods	Closure Limits (mg/Kg)
Benzene	EPA SW-846 Method 8021B or 8260B	0 2
BTEX	EPA SW-846 Method 8021B or 8260B	50
TPH	EPA SW-846 Method 418 I modified	2500
GRO/DRO	EPA SW-846 Method 8015M (GRO/DRO)	500
Chlorides	EPA SW-846 Method 300 1	500

#### Table 1 Closure Criteria for Temporary Pits in Non-sensitive Areas with Groundwater >50-100 feet

- 9 Upon completion of solidification and testing, the pit area will be backfilled with nonwaste earthen material compacted to native conditions to enable effective revegetation for successful evapotranspiration. A minimum of four feet of cover including replacement of one foot of suitable material to establish vegetation, or the background thickness of topsoil, whichever is greater.
- 10 Following cover, the site will be recontoured to meet the Surface Management Agency USFS APD conditions of approval requirements. Re-contouring will attempt to match fit, shape, line form, and texture of the surrounding geography. Re-shaping will include drainage control, prevent ponding, and minimize erosion. Natural drainages will be unimpeded and stormwater Best Management Practices (BMPs) will be used to aid in soil stabilization and protection surface water quality.
- 11 Notification will be sent to the Aztec District office when the reclaimed area is seeded
- 12 WPX shall seed the disturbed areas the first growing season after the pit is covered Seeding will be accomplished via dtilling on the contour whenever practical, or by other Division-approved methods. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintained that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs. Note: WFX assumes the seeding stipulations including mix and seeding methods specified by the USFS as the Surface Management Agency and as part of the APD are Division-approved methods unless notified by the Division of their unacceptability.
- 13 The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the on-site burial upon the abandonment of all wells on the pad. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the on-site burial of the temporary pit. The plate will be easily removable and a four-foot tall riser will be threaded into the top of the collar marker and welded around the base with the operations information at the time of all wells on the pad abandoned. The information will include Operator Name, Lease Name, Well Name, and number, USTR, and an indicator that the marker is an onsite pit burial location.

#### Lane, Myke

From	Lane, Myke
Sent	Tuesday, March 09, 2010 10 48 AM
То	Mark Kelly (Mark Kelly@nm blm goy)
Cc	Powell, Brandon, EMNRD, Meador, Tasha, Riley, Heather
Subject	Landowner Notice - Rosa 635C Pit Closure

This correspondence is to notify the BLM that Williams Production is planning to use a temporary pit associated with the drilling and completion of the reference well and following discontinued use of the pit will close by onsite burial — The planned closure is consistent with the Surface Use Plan submitted with Williams APD

It should be noted that this well will be drilled using a slick-water mud system for the vertical section of the well - This mud system will use the Temporary pit

A Oil-Based Mud system will be used for the horizontal section — A Closed-Loop mud control system will be used and no onsite waste disposal is planned for the solids from this CLP

This notice is to comply with the NMOCD Pit Rule 19 15 17 NMAC requirement to notify surface owners of the operator's intended closure method. If site conditions do not allow Williams to close in-place, we will provide your office with prior notice should the USFS have any concerns.

Please contact us if there are any questions or additional information is required

Michael K. (Myke) Lane, PE EH&S Team Leader - San Juan Basin Operations 721 S. Main/PO Box 640, Aztec, NM 87410 (505) 634-4219(off), -4205(fax), 330-3198(cell)

"The problems we face cannot be resolved at the same level of thinking as that which gave rise to them!"---shared with me by Brent Hale

.F District 1 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

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State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office. For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

4919 <u>Pit, Closed-Loop System, Below-Grade Tank, or</u>				
Proposed Alternative Method Permit or	Closure Plan Application			
Type of action: Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method Modification to an existing permit Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method				
Instructions: Please submit one application (Form C-144) per individual pit, c	closed-loop system, below-grade tank or alt	ernative request		
Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.				
Operator: Williams Operating Co, LLC	OGRID #:1207	82		
Address: PO Box 640 / 721 S Main Aztec, NM 87410				
Facility or well name:Rosa SWD Unit No. 2				
API Number: <u>30-039-30812</u> OCD Permit 1	Number:			
U/L or Qtr/Qtr <u>F</u> Section <u>25</u> Township <u>31N</u> Range	5WCounty:Rio Arrib	<u>a</u>		
Center of Proposed Design: Latitude 36.886951N / 36.87077N Longitude	<u>-107.311156W / -107.31548W</u>	NAD: 🗌 1927 🖾 1983		
Surface Owner: 🛛 Federal 📋 State 🗋 Private 🗋 Tribal Trust or Indian Allotment				
2.				
Pit: Subsection F or G of 19.15.17.11 NMAC				
Temporary: 🛛 Drilling 🔲 Workover				
Permanent Emergency Cavitation P&A				
Lined Unlined Liner type: Thickness <u>20</u> mil LLDPE HDPE	PVC Other			
String-Reinforced				
Liner Séams: 🛛 Welded 🖾 Factory 🗌 Other Volume:	44,000bbl Dimensions: L140'	x W <u>70'</u> x D <u>25'</u>		
3.				
Closed-loop System: Subsection H of 19.15.17.11 NMAC				
Type of Operation: P&A 🛛 Drilling a new well 🗌 Workover or Drilling (Applies intent)	to activities which require prior approval o	f a permit or notice of		
Drying Pad 🛛 Above Ground Steel Tanks 🖾 Haul-off Bins 🗌 Other				
Lined Unlined Liner type: Thicknessmil LLDPE HD	OPE   PVC   Other	<u> </u>		
Liner_Seams: Welded Factory Other	· · · · · · · · · · · · · · · · · · ·			
F		W712829 30 3		
The OCD District office reviewed the permit and due to the complexities the District of Environmental Bureau regarding the permit. As a result of the discussions the OCD h Williams closure plan proposed hauling the drilling cuttings and materials to an off-si Pursuant to 19.15.17.13.D NMAC, approved closure methods for closed-loop system the drying pad liner to a division-approved facility or <u>on-site</u> burial. Pursuant to the 19.15.17.13.F NMAC, an operator "may use <u>in-place burial</u> (burial in the existing tem bury the contents of a drying pad associated with a closed-loop system in a temporal accordance with Paragraphs (1) through (6) and (10) of Subsection F of 19.15.17.11 N with a closed loop system" <u>on-site</u> . Off-site disposal would require the operator to o permit (landfill permit) in accordance with 19.15.36 NMAC, unless the waste materia	office also contacted the OCD ereby denies Williams permit application. ite location for burial and disposal. s include transferring waste material and <u>on-site closure method</u> provisions of porary pit) for closure of a temporary pit or ry pit that the operator constructs in NMAC for closure of a drying pad associated btain a surface waste management facility.	RECEIVED 123 JAN 2010 55 CONS. DIV. DIST. 3		

Exhibit E

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Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)

Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)

Four foot height, four strands of barbed wire evenly spaced between one and four feet

Alternate. Please specify <u>As per USFS specifications</u>

Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)

Screen Netting Other

Monthly inspections (If netting or screening is not physically feasible)

Signs: Subsection C of 19.15.17.11 NMAC

12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

Signed in compliance with 19.15.3.103 NMAC

#### Administrative Approvals and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.

Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

10. Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acce- material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appro office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to dry above-grade tanks associated with a closed-loop system.	eptable source opriate district approval. ving pads or
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	🗌 Yes 🛛 No
<ul> <li>Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).</li> <li>Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	☐ Yes ⊠ No
<ul> <li>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</li> <li>(Applies to temporary, emergency, or cavitation pits and below-grade tanks)</li> <li>Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	☐ Yes ⊠ No ☐ NA
<ul> <li>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</li> <li>(Applies to permanent pits)</li> <li>Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	☐ Yes ☐ No ⊠ NA ´
<ul> <li>Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.</li> <li>NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🛛 No
<ul> <li>Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.</li> <li>Written confirmation or verification from the municipality; Written approval obtained from the municipality</li> </ul>	🗌 Yes 🛛 No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	🗌 Yes 🛛 No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	🗋 Yes 🛛 No
<ul> <li>Within an unstable area.</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	🔲 Yes 🛛 No
Within a 100-year floodplain. - FEMA map	🗋 Yes 🛛 No

<u>Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist</u> : Subsection B of 19.15.17.9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are				
attached.         Image: Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC         Image: Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC         Image: Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC         Image: Design Plan - based upon the appropriate requirements of 19.15.17.10 NMAC         Image: Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC         Image: Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC				
Previously Approved Design (attach copy of design) API Number: or Permit Number:				
12. Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached. Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9				
<ul> <li>Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC</li> <li>Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC</li> <li>Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC</li> <li>Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC</li> </ul>				
Previously Approved Design (attach copy of design) API Number:				
Previously Approved Operating and Maintenance Plan API Number: (Applies only to closed-loop system that use				
above ground steel tanks or haul-off bins and propose to implement waste removal for closure)				
13.         Permanent Pits Permit Application Checklist:       Subsection B of 19.15.17.9 NMAC         Instructions:       Each of the following items must be attached to the application.       Please indicate, by a check mark in the box, that the documents are attached.         Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC         Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC         Climatological Factors Assessment         Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC         Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC         Lak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC         Quality Control/Quality Assurance Construction and Installation Plan         Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.11 NMAC         Musiance or Hazardous Odors, including H <sub>2</sub> S, Prevention Plan         Emergency Response Plan         Oil Field Waste Stream Characterization         Monitoring and Inspection Plan         Erosion Control Plan         Closure Plan - based upon the appropriate requirements of 19.15.17.9 NMAC and 19.15.17.13 NMAC				
Proposed Closure: 19.15.17.13 NMAC Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan. Type:  ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank				
<ul> <li><sup>15.</sup> Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.</li> <li>Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC</li> <li>Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC</li> <li>Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)</li> <li>Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC</li> <li>Re-vegetation Plan - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC</li> </ul>				

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16. <u>Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only</u> : (19.15.17.13.D NMAC) Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.			
Disposal Facility Name: Temporary Pit on Rosa 394 Location D	isposal Facility Permit Number:		
Disposal Facility Name: D	Disposal Facility Permit Number:		
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future service and operations?			
Required for impacted areas which will not be used for future service and operations:         Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC         Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC         Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC			
17. <u>Siting Criteria (regarding on-site closure methods only)</u> : 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.			
Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data of	btained from nearby wells	□ Ycs ⊠ No □ NA	
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data of	btained from nearby wells	□ Yes ⊠ No □ NA	
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data of	btained from nearby wells	⊠ Yes □ No □ NA	
<ul> <li>Within 300 feet of a continuously flowing watercourse, or 200 feet of any other signifiate (measured from the ordinary high-water mark).</li> <li>Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	icant watercourse or lakebed, sinkhole, or playa	🗌 Yes 🛛 No	
Within 300 feet from a permanent residence, school, hospital, institution, or church in - Visual inspection (certification) of the proposed site; Aerial photo; Satellite in	existence at the time of initial application. nage	🗌 Yes 🛛 No	
Within 500 horizontal feet of a private, domestic fresh water well or spring that less the watering purposes, or within 1000 horizontal feet of any other fresh water well or spring - NM Office of the State Engineer - iWATERS database; Visual inspection (ce	an five households use for domestic or stock ng, in existence at the time of initial application. rtification) of the proposed site	🗌 Yes 🛛 No	
<ul> <li>Within incorporated municipal boundaries or within a defined municipal fresh water valopted pursuant to NMSA 1978, Section 3-27-3, as amended.</li> <li>Written confirmation or verification from the municipality; Written approval</li> </ul>	vell field covered under a municipal ordinance obtained from the municipality	🗌 Yes 🛛 No	
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual i	nspection (certification) of the proposed site	🗌 Yes 🛛 No	
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining ar	nd Mineral Division	🗌 Yes 🛛 No	
<ul> <li>Within an unstable area.</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Society; Topographic map</li> </ul>	: Mineral Resources; USGS; NM Geological	🗌 Yes 🛛 No	
Within a 100-year floodplain. - FEMA map		' 🗌 Yes 🛛 No	
<ul> <li>18.</li> <li>On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.</li> <li>Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC</li> <li>Proof of Surface Owner Notice - based upon the appropriate requirements of 19.15.17.13 NMAC</li> <li>Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC</li> <li>Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC</li> </ul>			

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Construction/Design Plan of remporary Plt (for in-place burlat of a drying pad) - based upon the appropriate requirements of 19.15.17.11 (MACC
 Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
 Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
 Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
 Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
 Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
 Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
 Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19. Operator Application Certification:	<i>'</i>
I hereby certify that the information submitted with this application	n is true, accurate and complete to the best of my knowledge and belief.
Name (Print):	Title: Sr. EH & S Specialist
Signature:	Date: 1/26/2010
e-mail address: myke.lane@williams.com	Telephone: <u>505-634-4219</u>
20. OCD Approval: Dermit Application (including closure plan)	Closure Plan (only) OCD Conditions (see attachment)
OCD Rep	Denied
Title:       The OCD District office reviewed the permit and due to Environmental Bureau regarding the permit. As a rest in Environmental Bureau regarding the permit. As a rest in Environmental Bureau regarding the permit. As a rest in Environmental Bureau regarding the permit. As a rest in Environmental Bureau regarding the permit. As a rest in Environmental Bureau regarding the permit. As a rest in Environmental Bureau regarding the permit. As a rest in Environmental Bureau regarding the permit. As a rest in Environmental Bureau regarding the permit. As a rest in Environmental Bureau regarding the permit. As a rest in Environmental Bureau regarding the permit. As a rest in Environmental Bureau regarding the permit of the drilling current in the drilling current in the drilling current in the drilling current in the driving pad liner to a division-approved facility or section of 1 19.15.17.13.F NMAC, an operator "may use in-placed bury the contents of a drying pad associated with a current contents of a drying pad associated with a current in the contents of a drying pad associated with a current in the current in th	to the complexities the District office also contacted the OCD alt of the discussions the OCD hereby denies Williams permit application. Ittings and materials to an off-site location for burial and disposal. Inethods for closed-loop systems include transferring waste material and on-site burial. Pursuant to the on-site closure method provisions of burial (burial in the existing temporary pit) for closure of a temporary pit or te this losed-loop system in a temporary pit that the operator constructs in of Subsection F of 19.15.17.11 NMAC for closure of a drying pad associated would require the operator to obtain a surface waste management facility. NMAC, unless the waste material is hauled to a division-approved facility. I Alternative Closure Method Waste Removal (Closed-loop systems only)
Instructions: Please indentify the facility or facilities for where t two facilities were utilized.	he liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than
Disposal Facility Name:	Disposal Facility Permit Number:
Disposal Facility Name:	Disposal Facility Permit Number:
Were the closed-loop system operations and associated activities p Yes (If yes, please demonstrate compliance to the items belo	erformed on or in areas that <i>will not</i> be used for future service and operations? ow) $\square$ No
Required for impacted areas which will not be used for future serve         Site Reclamation (Photo Documentation)         Soil Backfilling and Cover Installation         Re-vegetation Application Rates and Seeding Technique	ice and operations:
24. Closure Report Attachment Checklist: Instructions: Each of t	the following items must be attached to the closure report. Please indicate, by a check
mark in the box, that the documents are attached.         Proof of Closure Notice (surface owner and division)         Proof of Deed Notice (required for on-site closure)         Plot Plan (for on-site closures and temporary pits)         Continuation Sampling Analytical Results (if applicable)         Waste Material Sampling Analytical Results (required for o         Disposal Facility Name and Permit Number         Soil Backfilling and Cover Installation         Re-vegetation Application Rates and Seeding Technique         Site Reclamation (Photo Documentation)	n-site closure)
On-site Closure Location: Latitude	Longitude NAD: 🗌 1927 🗍 1983
<ul> <li>25. <u>Operator Closure Certification</u>:</li> <li>I hereby certify that the information and attachments submitted wi belief. I also certify that the closure complies with all applicable of Name (Print):</li> </ul>	th this closure report is true, accurate and complete to the best of my knowledge and closure requirements and conditions specified in the approved closure plan.
Signature:	Date:
c-mail address:	Telephone:

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# Williams Production Co., LLC Rosa SWD #2 (API: 30-039-30812)

## Drilling and Completion Closed-Loop & Temporary Pit System

In accordance with Rule 19.15.17 NMAC, the following plans describes the Design and Construction (D&C); the Maintenance and Operation (O&M) and Closure of a closedloop and temporary pit system to be used for the drilling and completion of the Rosa Unit SWD #2 by Williams Production Co, LLC (WPX).

The Closed-loop portion of this system will be located immediately adjacent to the drilling/completion rig for solids and fluid handling and to prevent impacts to the immediate environment surrounding the wellsite. The temporary pit portion of the system will be needed to provided additional fluids storage for pressure control, hole stability and solids management. The temporary pit will be located at a less environmental sensitive new drill well location (Rosa Unit #394: API 30-039-29706) within 1.1 miles north of the SWD #2 wellsite.

## **Design and Construction Plans**

#### **Closed-Loop Design & Construction Plan:**

The Closed-Loops System will consist of one or more temporary above-ground tank(s) suitable for holding the cuttings and fluids for rig operations and the planned Drilling/Completion activities. The tank(s) will be of sufficient volume to maintain a safe free-board between disposal of the liquids and solids from rig operations. Additional design considerations include:

- 1. The Closed-loop System used by WPX will not entail a drying pad, below-grade tank or sump.
- 2. Fencing is not required for an above-ground closed-loop system.
- 3. It will be signed in compliance with 19.15.3.103 NMAC
- 4. A temporary pit will be used to store surplus liquids and handle the large volume of cutting anticipated while drilling the disposal well.
- 5. Haul-off bins or similar containers will be used to temporarily hold dewatered solid prior to disposal in the temporary pit.
- 6. Tanks will be placed on the active and disturbed areas of the SWD well location and within the existing ROW footprint.

#### **Temporary Design & Construction Plan:**

General Requirements:

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- 1. WPX will be designed and constructed the temporary pit to contain surplus liquids and recovered solids associated with the drilling and completion of the referenced SWD well which will prevent contamination of fresh water resources and protect public health and the environment.
- 2. Prior to excavation of the pit, topsoil will be stripped and stockpiled within the construction zone of the wellsite want within the ROW for later use during restoration.
- 3. WPX will post a well sign, not less than 12" by 24", on the well site prior to construction of the temporary pit. This sign will list the operator on record, the location of the well site by unit letter/section/township/range, and emergency telephone number(s).
- 4. WPX shall construct all new fences utilizing 48" steel mesh field-fence (hogwire) on the bottom with a single strand of barbed wire on top. T-posts will be installed every 12 feet and corners shall be anchored utilizing a secondary T-post or similar bracing. The temporary pit will be fenced at all times excluding drilling/completion operations, at which time the "front" side of the fence will be temporarily removed for operational purposes.

- 5. WPX shall construction the temporary pit so that the foundation and interior slopes are firm and free of rocks, debris, sharp edges or irregularities to meet manufacturers' specifications and potential liner failure.
- 6. WPX shall construct the pit so that the slopes are no steeper than two horizontal to one vertical. Where steeper slopes are required due to surface owner and right-a-way restriction, an engineer's certification of stability will be provided
- 7. The pit walls will be walked down by a crawler type tractor following construction and prior to liner installation.
- 8. The temporary pit will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements.
- 9. Geotextile will be installed beneath the liner when rocks, debris, sharp objects or irregularities cannot be avoided.
- 10. The liner will be anchored in the bottom of a compacted earth-filled trench consistent with manufacturer's specifications and at least 18 inches deep.
- 11. WPX will minimize liner seams and orient them up and down, not across slope faces. Factory seams will be used whenever possible. Field seams will be overlapped per manufacturers' specifications. WPX will minimize the number of field seams in corners and irregularly shaped areas.
- 12. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides (secondary liner placed over the primary liner), and/or a manifold system.
- 13. The pit shall be protected from run-on by construction of diversion ditches around the location or around the perimeter of the pit as necessary.
- 14. The volume of the pit shall not exceed 10 acre-feet (77,580 bbl), including freeboard.
- 15. No temporary blow pit will be needed for the drilling and completion of the reference SWD.

# Maintenance & Operating Plan

## Closed-Loop Plan:

The Closed-Loops System will be operated and maintained: to contain liquids and solids, to aid in the prevention of contamination of fresh water sources, in order to protect public health and the environment. The following steps will be followed to attain this goal:

- 1. The liquids will be transferred to and from the temporary above-ground rig tanks using vacuum trucks. Liquid levels will be maintained to provide required freeboard and prevent overtopping. Surplus liquids will be stored in the Temporary Pit and transfered to and from the Closed-Loop system as needed to effective drill and complete the well.
- 2. Solids in the Closed-Loop tanks will be vacuumed out and transferred to the Temporary pit on a periodic basis to ensure sufficient liquid volumes for effective drilling/completion and to prevent over topping.
- 3. No hazardous waste, miscellaneous solid waste or debris will be discharged into or stored in the tank(s). Only fluids or cutting intrinsic to, used or generated by rig operations will be placed or stored in the tank(s).
- 4. The Division District office will be notified within 48 hours of the discovery of compromised integrity of the Closed-Loop System. Upon discovery of the compromised tank, repairs will be enacted immediately.
- 5. All of the above operations will be inspected and a log will be signed and dated. During rig operations the inspection will be daily.

## Temporary Pit Plan:

- 1. WPX will operate and maintain the temporary pit to contain liquids and solids associated with the drilling and completion of the referenced SWD well which will prevent contamination of fresh water resources and protect public health and the environment.
- 2. WPX will to the extent practical conserve drilling fluids for reuse by transferring liquids to other pits ahead of the rig. Any excess fluids that are not needed for

well control during drilling or completion will be disposed by evaporation or transport to Basin Disposal, Inc in Bloomfield, New Mexico (Permit # NM-01-005).

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- 3. WPX shall maintain at least two (2) feet of vertical freeboard for the temporary pit.
- 4. WPX shall remove all free liquids from the temporary pit within 30 days from the date the drilling or completion rig is released.
- 5. Only fluids and solids generated during the drilling/completion process and from the reference closed-loop system will be discharged into the temporary pit. Other miscellaneous solid waste or debris will not be allowed.
- 6. WPX will not discharge or store any hazardous waste as defined under RCRA 40CFR 261 and 19.15.1.7.W(3) NMAC in the temporary pit or associated Closed-Loop system.
- 7. If any pit liner's integrity is compromised, or if any penetration of the liner occurs:
  - a. Above the liquid's surface, WPX shall repair the damage or replace the liner as necessary. WPX will notify the NMOCD Aztec District Office by phone or email within 48-hours of discovery.
  - b. Leak below the liquid's surface, WPX shall suspend operations, remove all liquids above the damaged liner within 48 hours, and repair the damage or replace the liner. WPX will notify and report to NMOCD as follows:
    - i. If the release is less than 25 bbls, the Aztec District Office by phone or email within 48-hours of discovery and repair.
    - ii. If the release is suspected to be greater than 25 bbls, the Aztec District Office and the Environmental Bureau Chief by phone for immediate verbal notification pursuant to 19.15.3.116.B (1)(d).
  - c. Written Spill/Release reports will be submitted on Form C-141 per 19.15.3.116.C NMAC within 15 days to the Aztec District Office.
- 8. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides (secondary liner placed over the primary liner), and/or a manifold system.
- 9. Diversion ditches, around the location or around the perimeter of the pit, shall be maintained as protection from run-on.
- 10. WPX shall immediately remove any visible layer of oil from the surface of a temporary pit following cessation of drilling/completion operations. Oil absorbent booms will be utilized to contain and remove oil. An oil absorbent boom will stored on-site until the pit is covered.
- 11. WPX will inspect the temporary pit as follows to ensure compliance with this plan:
  - a. Daily during drilling or workover operations. Inspections will be included with the IADC reports.
    - b. Weekly as long as liquids remain in the pit. Electronic copies of the inspections will be kept at the WPX San Juan Basin office.
    - c. Copies of the inspections will be filed with the NMOCD Aztec District office upon pit closure.

#### **Closure Plan**

#### Closed-Loop Plan:

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The Closed-Loops System will be closed in accordance with 19.15.17.13. This will be done by:

- 1. WPX will vacuum removed any residual cutting and sludge from all temporary above-ground tanks and transporting cuttings to the Temporary Pit following rig operations.
- 2. WPX will to the extent practical conserve drilling fluids for reuse by transferring liquids to other permitted pits ahead of the rig. Any excess fluids that are not needed for well control during drilling or completion will be disposed by evaporation or transport to Basin Disposal, Inc in Bloomfield, New Mexico (Permit # NM-01-005).
- 3. Removal of the tank(s) from the well location as part of the rig move.
- 4. At time of well abandonment, the site will be reclaimed and re-vegetated to preexisting conditions when possible, or as stipulated by the surface management agency (i.e. USFS) in the APD conditions of approval.
# Temporary Pit In-place Closure Plan

In accordance with Rule 19.15.17.13 NMAC, the following plan describes the in-place closure requirements of the temporary pit to be used with the reference SWD well. Since the pit location is in a non-sensitive area with groundwater > 100 feet below the pit bottom the closure criteria for non-sensitive areas will be followed.

All closure activities will include proper documentation and will be submitted to OCD within 60 days of the pit closure on a Closure Report using Division Form C-144. The Report will include the following:

- Details on Capping and Covering, where applicable
- Plot Plan (Pit Diagram)
- Inspection reports
- Sampling Results
- Division Form C-105: WELL COMPLETION OR RECOMPLETION REPORT AND LOG

### Closure Procedure:

- All free standing liquids will be removed from the pit at the start of the closure process. To the extent practical WPX will attempt to conserve drilling fluids for reuse by transferring liquids to other permitted pits ahead of the rig. Any excess fluids that are not needed for well control during drilling or completion will be disposed by evaporation or transport to Basin Disposal, Inc in Bloomfield, New Mexico (Permit # NM-01-005).
- 2. The method of closure for the temporary pit will be in-place burial on-site closure as all the criteria in 19.15.17.13.B are met.
- 3. The surface owner shall be notified of WPX's proposed closure plan using a means that provides proof of notice and consistent with the BLM-NMOCD MOU.
- 4. Within six months of the "rig-off" status occurring WPX will ensure that the temporary pit is covered, recontoured and reseeding in progress consistent with the USFS APD conditions of approval.
- 5. Notice of Closure will be given to the Aztec District office between 72 hours and one week of the scheduled closure via email or phone. The notification of closure will include the following: Operators Name (WPX), Well Name and API Number, and Location (USTR)
- 6. The pit liner shall be removed above "mud level" after stabilization. Removal of the liner will consist of manually or mechanically cutting the liner at the mud level and removing all remaining liner. Care will be taken to remove "all" of the liner (I.e. anchored material). All excessive liner will be disposed of at a licensed disposal facility (probably San Juan Regional Landfill operated by Waste Management under NMED Permit SWM-052426).
- 7. Solidification of the remaining pit contents shall be achieved by mixing non-waste containing, earthen material. The solidification process will be accomplished use a combination of natural drying and mechanical mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed safe and stable. The mixing ratio shall not exceed 3 parts non-waste to 1 part pit contents.
- 8. A five-point composite sample will be taken of the pit using sampling tools and all samples tested per 19.15.17.13(B)(1)(b) NMAC. In the event that the criteria are not met (See Table 1), all contents will be handled per 19.15.17:13(B)(1)(a) (i.e. dig and haul to a Division-approved facility). Approval to haul will be requested of the Aztec District office prior to initiation.

Table 1: Closure Criteria for Temporary Pits in Non-sensitive Areas

Components	Testing Methods	Closure Limits (mg/Kg)
Benzene	EPA SW-846 Method 8021B or 8260B	0.2
BTEX	EPA SW-846 Method 8021B or 8260B	50
TPH	EPA SW-846 Method 418.1 modified	2500
GRO/DRO	EPA SW-846 Method 8015M (GRO/DRO)	500
Chlorides	EPA SW-846 Method 300.1	1000

- 9. Upon completion of solidification and testing, the pit area will be backfilled with nonwaste earthen material compacted to native conditions to enable effective revegetation for successful evapotranspiration. A minimum of four feet of cover including replacement of one foot of suitable material to establish vegetation, or the background thickness of topsoil, whichever is greater.
- 10. Following cover, the site will be recontoured to meet the Surface Management Agency USFS APD conditions of approval requirements. Re-contouring will attempt to match fit, shape, line form, and texture of the surrounding geography. Re-shaping will include drainage control, prevent ponding, and minimize erosion. Natural drainages will be unimpeded and stormwater Best Management Practices (BMPs) will be used to aid in soil stabilization and protection surface water quality.
- 11. Notification will be sent to the Aztec District office when the reclaimed area is seeded.
- 12. WPX shall seed the disturbed areas the first growing season after the pit is covered. Seeding will be accomplished via drilling on the contour whenever practical, or by other Division-approved methods. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintained that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs. Note: WPX assumes the seeding stipulations including mix and seeding methods specified by the USFS as the Surface Management Agency and as part of the APD are Divisionapproved methods unless notified by the Division of their unacceptability.
- 13. The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the on site burial upon the abandonment of all wells on the pad. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the on site burial of the temporary pit. The plate will be easily removable and a four-foot tall riser will be threaded into the top of the collar marker and welded around the base with the operations information at the time of all wells on the pad abandoned. The information will include Operator Name, Lease Name, Well Name, and number, USTR, and an indicator that the marker is an onsite pit burial location

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# Location of Temporary Pit System

ROSA UNIT SWD #2



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#### Hydrogeological Report Williams Production Company, LLC Rosa Unit SWD #2 Temporary Pit Regional Hydrological Context

#### Referenced Well Location:

The referenced temporary pit is located on Carson National Forest's Jicarilla Ranger District jurisdiction in Rio Arriba County, New Mexico. This site is positioned in the northeastern portion of the San Juan Basin, an asymmetrical syncline that extends from northwestern New Mexico into southwestern Colorado (Carson National Forest FEIS, 2008). Elevation of the referenced well is approximately 6639 feet MSL.

#### General Regional Groundwater Description:

As a portion of the San Juan Basin, the Jicarilla Ranger District is underlain by sandstone aquifers of the Colorado Plateau. The primary aquifer of potential concern at this location is the Uinta-Animas Aquifer, composed primarily of Lower Tertiary rocks in the San Juan Basin. The aquifer consists of the San Jose Formation; the underlying Animas formation and its lateral equivalent, the Nacimiento formation; and the Ojo Alamo Sandstone. The thickness of the Uinta-Animas aquifer generally increases toward the central part of the basin. In this region, the maximum thickness of the aquifer is approximately 3500 feet (USGS, 2001). This aquifer contains fresh to moderately saline water.

Groundwater generally flows toward the San Juan River and its tributaries, where it becomes alluvial groundwater or is discharged to stream flow. Additional information regarding the hydrogeologic setting can be found in the provided references.

# Site Specific Information:

Surface Hydrology:	The pit is located on a large level northern bench approximately 40-60 feet above Martinez Canyon. The topography slopes toward a drainage associated with
	Martinez Canyon. Martinez Canyon is located approximately ½ mile to the north and Cabresto Canyon is located approximately one (1) mile to the south.
1 <sup>st</sup> Water Bearing Formation:	San Jose, Tertiary
Formation Thickness:	Approximately 1,900 ft.
Underlying Formation:	Nacimiento, Tertiary
Depth to Groundwater:	Depth to groundwater is estimated at greater than 100 feet bgs. Within a one-mile radius of this location, there were no iWATERS wells with recorded water depth information. Comparison to cathodic wells on six gas well locations near the proposed well indicate the groundwater show be greater than 124 to 290 feet. See Table 1 and Siting Criteria Map I for details

#### References:

Allen, Erin. Undated. Colorado Plateau Aquifers.

http://academic.emporia.edu/schulmem/hydro/TERM%20PROJECTS/2007/Allen/Aquifer.html.

New Mexico Energy, Minerals and Natural Resources Department, Division of Mining and Minerals. Database, 2010. Internet accessed January 2010.

New Mexico Office of the State Engineer. 2010. iWaters database. Internet accessed January 2010.

New Mexico WQCC. 2005. State of New Mexico Water Quality Act and the Water Control Commission Regulations.

United States Department of Agriculture, Forest Service. 2008. Final Environmental Impact Statement for Surface Management of Gas Leasing and Development. Jicarilla Ranger District, Carson National Forest, Rio Arriba County, New Mexico.

United States Department of the Interior. Bureau of Land Management. 2003. Final Farmington Resource Management Plan and Final Environmental Impact Statement. Farmington Field Office, Farmington, New Mexico.

United States Geological Survey. 2001. Ground Water Atlas of the United States: Arizona, Colorado, New Mexico and Utah. USGS Publication HA 730-C; <u>http://capp.water.usgs.gov</u>.

		· · · · · · · · · · · · · · · · · · ·		Depth to Moisture		Relative to RU 394	
Well	Lat	Long	Site Elevation (ft) MSL	BGS (ft)	Elevation (ft) MSL	GW Elevation (ft) BGS	Distance (ft)
Rosa SWD#2		-					
Temp Pit	36.886944	107.310556	6639	100	6539	>100	0
Rosa 371	36.89495	-107.31722	6530	180	6350	289	3315
Rosa 370	36.87788	-107.29895	6554	80	6474	165	4125
Rosa 375	36.88244	-107.31644	6596	100	6496	143	2062
Rosa 375A	36.88972	107.31972	6655	140	6515	124	2743
Rosa 62	36.87523	-107.31685	6606	150	6456	183	4624
Rosa 61	36.89502	-107.31767	6527	180	6347	292	3367

# Table 1: Comparison of Cathodic Well Data to Proposed Rosa UnitSWD #2Temporary Pit Location

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#### FEMA Map - 100-Year Floodplain:

As this location is within Carson National Forest, no FEMA maps are available. However, orthophotographic and topographic maps, and an on site investigation indicate that this location is not within a floodplain..

#### Siting Criteria Compliance Demonstrations:

The Rosa Unit #394 well is not located in an unstable area. The location is not situated over a mine or a steep slope. Excavated pit material will not be located within 300 feet of a continuously flowing water course or within 200 feet of any other significant water course, lakebed, sinkhole, or playa lake (see Siting Criteria Map II). The site is not within 500 feet of any reported riparian areas or wetlands; within 500 feet of any private, domestic fresh water well or spring; or within 1000 feet of any other fresh water well or spring (see Siting Criteria Map I). The proposed pit will not be within any incorporated municipal boundaries or defined municipal freshwater well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. The location of the proposed pit is not within 300 feet of any permanent residence, school, hospital, institution, or church. Ł

# Lane, Myke

From:	Lane, Myke	
Sent:	Tuesday, January 26, 2010 5:55 PM	
То:	'John Reidinger'; 'Jon J Miller'	
Cc:	Meador, Tasha ; Higgins, Larry ; Riley, Heather	
Subject:	Landowner Notice - Rosa SWD #2 Closed-Loop & Temporary Pit System	

This correspondence is to notify the USFS that Williams Production is planning to use a Closed-Loop with temporary pit associated with the drilling and completion of the reference well. The Closed-Loop system consisting of temporary above-ground tanks only will be used on the SWD#2 wellpad. The temporary pit needed for surplus mud storage and solids handling will be located on the Rosa #394. This will minimize the need for trucking liquid and solids handling during drilling/completion operations, ensuring sufficient mud and liquids are readily available to effectively and safely install the reference well. Following discontinued use of the Closed-Loop system all tanks will be removed from the well site, and the temporary pit will close by onsite burial. The planned closure is consistent with the Surface Use Plans submitted with Williams APDs.

This notice is to comply with the NMOCD Pit Rule 19.15.17 NMAC requirement to notify surface owners of the operator's intended closure method(s). If site conditions do not allow Williams to close in-place, we will provide your office with prior notice should the USFS have any concerns.

Please contact us if there are any questions or additional information is required

Michael K. (Myke) Lane, PE EH&S Team Leader - San Juan Basin Operations 721 S. Main/PO Box 640, Aztec, NM 87410 (505) 634-4219(off); -4205(fax); 330-3198(cell)

"The problems we face cannot be resolved at the same level of thinking as that which gave rise to them!"---shared with me by Brent Hale

# STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

AMENDED APPLICATION OF WILLIAMS PRODUCTION CO., LLC FOR APPROVAL OF A CLOSED-LOOP SYSTEM FOR THE ROSA SWD WELL NO 2 AND FOR THE IN-PLACE BURIAL OF DRILLING WASTES AT ANOTHER WELL LOCATION, NEW MEXICO

CASE NO. 14463

# AFFIDAVIT OF BRANDON POWELL

I. Brandon Powell, being first duly sworn under oath, state the following

- 1 The information contained in this Affidavit is true and is based upon my knowledge
- 2 I have been employed as the Environmental Specialist at the Aztee, New Mexico office of the Oil Conservation Division ("OCD") since 2006
- 3 My duties include reviewing all form C-144 Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method or Closure Plan Applications, and all form C-144 CLF7 Closed-I oop System Permit or Closure Plan Applications, submitted to the OCD Aztec Office
- 4 The Aztec office has previously approved co-located pits for wells which were drilled on the same well pad, but not for wells drilled on separate well pads
- 5 On March 9, 2010, the OCD Aztec Office received a form C-144 Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method or Closure Plan Application for the Rosa Unit No 634B The form C-144 requested a closed-loop system and temporary drilling pit for the Rosa Unit No 634B Williams did not request that the pit be used for any other well besides the Rosa Unit No 634B Since Williams identified the Rosa Unit No 634B as the only well that would be using the pit, I reviewed the form C-144 for that purpose only I did not review the form C-144 for the proposal that Williams is making in its hearing application because it was never applied for by Williams

FURTHER AFFIANT SAYETH NOT

Dowell

Brandon Powell

SUBSCRIBED AND SWORN before me this 22 day of April, 2010



OFFICIAL SEAL AMY H. VERMERSCH NOTARY PUBLIC STATE OF NEW MEXICO My commission expires\_120112

Notary Public

My Commission Expires

3.30.3012