

1R - 426-03

Revised  
**WORKPLANS**

**DATE:**

3-3-09

**Hansen, Edward J., EMNRD**

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**From:** Hack Conder [hconder@riceswd.com]  
**Sent:** Wednesday, June 03, 2009 3:08 PM  
**To:** Hansen, Edward J., EMNRD  
**Cc:** 'Katie Jones'; 'Hall, Sharon'  
**Subject:** FW: BD Jct. K-27 North & K-27-1 (1R426-02 & 03)  
**Attachments:** Response letter to meeting discussion with OCD 3.3.09.pdf; Figure 1 Site Location Map-k27.pdf

Ed,

The following is an addendum to 1R426-02&03 BD K-27 response to your request for further information on March 3<sup>rd</sup> 2009, paragraph 3 on page two. Blue lettering is addition to that paragraph. Also attached are the original response letter to NMOCD and a site map displaying the up gradient source from K-27. If you need any other information please contact me.

ROC proposes the installation of a groundwater recovery system at the former K-27-1 junction box location. A solar-driven pump will be placed in existing well MW-1, an existing 4-inch monitor well. The pump will operate 8-10 hours per day and the groundwater recovered from the well be pumped into a tank. The groundwater will be treated with a R.O. system on site on-site to chloride concentrations below 250 mg/L. The treated water will be used to irrigate the site to promote vegetation and the effluent water will be utilized for pipeline and well maintenance.

Hack Conder  
Environmental Manager  
Rice Operating Company  
575-393-9174  
fax 575-397-1471

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**Hansen, Edward J., EMNRD**

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**From:** Hall, Sharon [Sharon.Hall@arcadis-us.com]  
**Sent:** Thursday, March 05, 2009 7:09 AM  
**To:** Hansen, Edward J., EMNRD  
**Cc:** Hansen, Keith; Hack Conder; Jones, Brad A., EMNRD  
**Subject:** FW: NMOCD case #s 1R0426-02 and 03 Response  
**Attachments:** 03-04-09 response letter.pdf

My apologies. I meant to send this to Ed, not Keith.  
Sharon

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**From:** Hall, Sharon  
**Sent:** Thursday, March 05, 2009 8:05 AM  
**To:** Brad.a.jones@state.nm.us  
**Cc:** Hansen, Keith; Hack Conder  
**Subject:** NMOCD case #s 1R0426-02 and 03 Response

Brad,  
Respectfully submitted on behalf of ROC is this response to your meeting discussions with ROC. Please let Hack or me know if you have any questions or need additional information.  
Regards,  
Sharon

Sharon E. Hall PG, REM  
Associate Vice President  
ARCADIS G&M Inc.  
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Mr. Brad Jones  
New Mexico Energy, Minerals, & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 S. St. Francis Drive  
Santa Fe, New Mexico 87505

Environmental

Subject:

**Response to NMOCD Request**  
**Jcts. K-27North and K-27-1, BD SWD SYSTEM**  
**Unit K, SEC. 27, T21S, R37E**  
**NMOCD CASE #s IR0426-02 and IR0426-03**

Date:  
March 3, 2009

Contact:  
Sharon E. Hall

Phone:  
432 687-5400

Email:  
shall@arcadis-us.com

Our ref.  
MT000834.0001

Dear Mr. Jones:

On behalf of Rice Operating Company (ROC), ARCADIS G&M, Inc. (ARCADIS) respectfully submits this response to your request to ROC in the meeting on February 24, 2008 regarding this site. Following submittal of a Closure Report dated March 10, 2008, NMOCD's requested that ROC provide an estimation of the chloride mass that has contaminated the groundwater at the former junction box locations and a plan for the removal of that chloride mass. As described in our July 18, 2008 response our chloride mass estimation and plan for removal of that chloride mass is as follows:

Calculations used to estimate the chloride mass in groundwater that may have resulted from releases from the former junction boxes are detailed in the table below. The size of the impacted area is conservatively assumed to be the combined width and length of each of the two excavations multiplied by a factor of 10 (the estimated horizontal dispersivity factor). This total area is then multiplied by the thickness of the aquifer (15 feet) and the estimated porosity (25%) resulting in a total saturated pore space volume.

The increase in chloride concentrations in groundwater is calculated by subtracting the lowest chloride concentration at the site (MW-5, 260 milligrams per Liter (mg/L)) from the highest measured chloride concentration identified at the site (MW-2, 600 mg/L). This net difference in chloride concentrations conservatively reflects the net impact to groundwater at the site resulting from releases from the junction boxes. It does not take into account other sources or regional groundwater conditions. Impacted groundwater conditions are documented in this area since the 1950's. (Ground-Water Report 6; Geology and Ground-Water Conditions in

Part of a bigger picture



