

1R - 1739

**GENERAL  
CORRESPONDENCE**

**YEAR(S):**  
2010

## Hansen, Edward J., EMNRD

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**From:** Bob Lang [bobl@chaparralenergy.com]  
**Sent:** Thursday, July 22, 2010 4:45 PM  
**To:** hsncpbm@leaco.net; glarson@hinklelawfirm.com; osevenranch@lyntegar.com; Hansen, Edward J., EMNRD; Johnson, Larry, EMNRD; mikeg@vadose.us; ledeuel@verizon.net; David.Carlson@chaparralenergy.com; Gene Daniel; Billy Nievar  
**Subject:** Emailing: 20100721 Letter to Patrick B McMahon et al.doc  
**Attachments:** 20100721 Letter to Patrick B McMahon et al.doc

<<20100721 Letter to Patrick B McMahon et al.doc>> A hard copy of this letter will be mailed to all parties in New Mexico and Texas.

The message is ready to be sent with the following file or link attachments:

20100721 Letter to Patrick B McMahon et al.doc

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22 July 2010

VIA "EMAIL"

Heidel, Samberson, Newell, Cox & McMahon  
Attn: Patrick B. McMahon  
Post Office Drawer 1599  
Lovington, New Mexico 88260

Re: Gladiola Saltwater Disposal System  
Lea County, New Mexico  
Proposed Sampling Plan

Dear Sir:

We are in receipt of your emailed letter of 16 July 2010 regarding the captioned facility. This letter is in response to your statements regarding the alleged deficiency of the Plan Chaparral delivered to the New Mexico Oil Conservation Division (hereinafter referred to as the NMOCD). Please be advised of the following in response to your letter:

1. A. Identification of the depth to groundwater will be addressed in Phase 2 of this multi-phase project. The Plan provided the NMOCD is Chaparral's Phase 1 Plan. Phase 1 (not to be confused with ASTM Standard E1527 terminology) operations consist of finding and delineating the vertical and horizontal extent of any damages to the ground surface and underlying soils. Chaparral intends to use the services of electromagnetic (EM) devices that examine the entire soil volume from ground surface down to approximately twenty feet below ground surface. These tools will give a complete picture of what areas have been affected. To ground truth the EM results at least five shallow (0-5 ft below ground surface, hereinafter referred to as bgs) and three deep (0-20 ft bgs) borings will be advanced, soil samples will be taken approximately every foot into the bore hole and analyzed, the results will be compared to the readings from the EM machines at the same depth intervals and maps drawn up to delineate what was found. From these readings one can more easily and accurately determine where deeper borings need to be drilled to properly characterize subsurface conditions including the potential impact to shallow groundwater. One or more of these borings will be advanced to ground water to determine the depth of ground water. The number, placement and depth of these borings will be guided initially by the Phase 1 test results and ultimately by the conditions encountered during the Phase 2 operations. Groundwater monitoring wells will be installed as part of the Phase 2 operations depending on the results of Phase 1.

B. Investigation of the lands around all wellheads (a well head protection area) and surface waters of the area is again a Phase 2 operation (again, not to be confused with the ASTM Phase 2 terminologies). A Phase 2 operation will determine the location of all water wells, oil and gas wells, pipelines, ponds, creeks, rivers, etc. in the area and whether or not the results of the EM survey indicate a contamination problem may exist near a well head, pond, lake, stream, etc.

C. Investigations into the distance and direction to nearby surface waters will be addressed. See 1. B. above.

2. The EM survey tool takes soil readings down to approximately twenty feet below ground surface. This survey will delineate the vertical extent of contamination sufficiently enough to satisfy most all requirements of the NMOCD. Deeper investigation may require more drilling, but that is a part of a Phase 2 operation. Based on what has already been ascertained, it is suspected the first ground water zone lies at or slightly below twenty feet from surface. The EM survey and the three bore holes drilled to ground truth the EM data may very well cut into the capillary fringe.
3. Define "assessment of historic contamination". This is rather open-ended. Known release sites have already been delineated. The EM survey and ground truth drilling should provide the information needed to properly design a remediation program based on the contaminants discovered in the EM survey and the soil sampling associated with the ground truth drilling. What more information is needed to fulfill your definition of "assessment"?
4. Chaparral was asked by the NMOCD to provide Chaparral's estimated costs to conduct this Phase 1 assessment of the known sites along the Gladiola Saltwater Disposal System. It was provided for all to see.

Chaparral's plan was prepared at the request of the NMOCD in support of the proposed Agreed Compliance Order that is a condition of the transfer of operations of the Houston 1A disposal well from Purvis Operating Company to Chaparral. Depending on the results of Phase 1 we will work with the NMOCD and the landowners to determine the best course of action. Chaparral intends to operate in a professional manner, using only true professionals in each and every field of endeavor. As information is discovered and analyzed we intend to share this data with all responsible parties in order that everyone involved readily sees what problems exist and what the best ways of correcting the problems are. We at Chaparral look forward to working with Mr. Burrus and all other parties of good will who may have a stake in these operations.

Should you have any questions, suggestions or comments, requests for modification of proposed plans, additional work, etc. please feel free to contact the undersigned at any time. Before we start operations we will make contact with all interested parties and inform them of our intended start date and place of beginning. Arrangements will be made beforehand to

Heidel, Samberson, Newell, Cox & McMahon, Attn: Patrick B. McMahon

21 July 2010

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either secure keys to existing gate locks and/or attach our own locks in series with existing locks in order that all gates can remain locked during investigation and remediation operations.

Sincerely,

**Chaparral Energy, L.L.C.**

Robert C. Lang IV, REM, CEA

EH&S Manager

Direct Number: (405) 426-4330

Direct Fax: (405) 425-8830

Cell Number: (405) 850-2732

E-Mail: [bobl@chaparralenergy.com](mailto:bobl@chaparralenergy.com)

cc: David Carlson, Chaparral Energy Legal  
Mike Griffin, Whole Earth Environmental, Inc.  
Tommy Burrus  
Edward Hansen, NMOCD  
Gary Larson, Hinkle, Hensley, Shanor & Martin LLP

TO: New Mexico Oil Conservation Division *Via E-mail*  
ATTN: Edward Hansen

FROM: Mr. Tommy Burrus/07 Ranch  
c/o Heidel, Samberson, Newell, Cox & McMahon  
Post Office Drawer 1599  
Lovington, New Mexico 88260

RE: Gladiola Saltwater System  
Chaparral Energy Co., LLC  
Proposed Sampling Plan

DATE: July 16, 2010

Pursuant to our most recent conversation regarding the above referenced Proposed Sampling Plan, (hereinafter referred to as the "Plan") the following are Mr. Burrus' comments on the Plan:

As you are aware, the New Mexico Oil Conservation Division (hereinafter referred to as "NMOCD") has been charged with the duty to protect the public health, fresh waters, animal and plant life and the environment from leaks, spills or releases of any material which has a reasonable probability to injure or be detrimental to any of these categories. In addition, the NMOCD has a duty to prevent leaks, spills or releases of any material from unreasonably interfering with the public welfare or use of property. To those ends, the OCD has compiled a document entitled, "Guidelines for Remediation of Leaks, Spills and Releases" (hereinafter referred to as "Guidelines"). It is through the procedures and protocols set forth in the Guidelines that leaks, spills and releases are to be addressed by the OCD and by the responsible party. The responsible party may deviate from these procedures and protocols if they provide a scientific basis for the deviation.

The Plan is deficient for the following reasons:

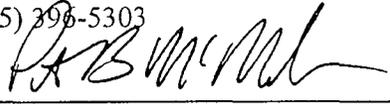
1. The Plan fails to provide for site assessment as per the Guidelines.
  - A. The Plan fails to provide for the identification of depth to groundwater as defined by the Guidelines. The Guidelines define depth to groundwater as "...the vertical distance from the lower most contaminants to the seasonal high water elevation of the groundwater."
  - B. The Plan fails to provide for the investigation of the well head protection area as required by the Guidelines. The Plan should determine the well head protection area.
  - C. The Plan fails to provide for the investigation of the distance to the nearest surface water body. The Plan should determine the proximity of surface water bodies.

2. The Plan fails to provide for the proper delineation of the vertical extent of contamination at the site.
3. The Plan fails to provide for the assessment of historic contamination at the site.
4. The Plan erroneously includes costs of implementation as a consideration for NMOCD.

Mr. Burrus reserves the right to modify, withdraw or supplement these comments as additional information becomes available.

Respectfully Submitted,

**HEIDEL, SAMBERSON, NEWELL, COX & McMAHON**  
Post Office Drawer 1599  
Lovington, New Mexico 88260  
(505) 396-5303

By: 

**Patrick B. McMahon**

cc: Tommy Burrus  
Robert Lang  
Mike Griffin

## Hansen, Edward J., EMNRD

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**From:** Hansen, Edward J., EMNRD  
**Sent:** Thursday, June 17, 2010 4:00 PM  
**To:** 'Bob Lang'  
**Cc:** Leking, Geoffrey R, EMNRD; Johnson, Larry, EMNRD; VonGonten, Glenn, EMNRD; Altomare, Mikal, EMNRD; Swazo, Sonny, EMNRD; 'DONNIE BROWN'  
**Subject:** RE: Gladiola SWD System, Eddy County, NM Proposal

Dear Mr. Lang:

The Oil Conservation Division (OCD) has received the proposed investigation plan regarding the Gladiola SWD System, dated April 9, 2010. Further information is required prior to proceeding with the review of the plan:

1. Please submit a map of the sites referenced in the plan (the figure referenced in the plan was not provided to the OCD).
2. Please submit a plan map for each site indicating the approximate locations of the proposed borings with the proposed depth of each boring. If borings have been performed in the past at any of the sites, please include the location of the former borings with each plan map.
3. Please submit a plan for using a PID and soil sampling for BTEX and TPH if the PID reading is over 100 ppm.
4. Please submit descriptive documentation for the "Geonics EM-38" and "Geonics EM-31" remote sensing devices.
5. Please provide the OCD remediation plan numbers (i.e., OCD case #; e.g., 1R-1739 & 1R-498; see below) for the respective release sites as identified in the plan. (As the OCD understands, not all of the sites identified in the plan may have OCD case #'s. If a site does not have a case # currently assigned, then Chaparral must submit a form C-141 to the OCD Hobbs District Office for each of those sites; and, if ground water has been impacted, to the OCD Santa Fe Office, Environmental Bureau Chief, in accordance with 19.15.29 NMAC.)

In addition, the approved investigation plans for 1R-1739 & 1R-498 have been conditioned to commence on Monday, June 21, 2010. The OCD suggests that Chaparral submit to the OCD a formal request for extension for commencement of the investigation plans prior to Monday.

Please submit the above information to the OCD within 10 days. If you have any questions regarding this matter, please contact me at 505-476-3489.

Edward J. Hansen  
Hydrologist  
Environmental Bureau

Below are release sites that have been identified by Purvis Operating Company:

Gladiola No. 2 Release Site, T 12S R38E Section 30 Unit Letter D,  
NMOCD Case # Not Assigned (Property owner: Tommy Burrus)

Gladiola SWD Release Site, T 12S R37E Section 25 Unit Letter A,  
NMOCD Case # 1R- 1739 (Property owner: Tommy Burrus)

Gladiola NE Release Site, T 12S R38E Section 18 Unit Letter O,  
NMOCD Case # 1R-498 (Property owner: Dean Kinsolving)

Gladiola SWD Section 26 Release Site T-12-S R-37-E Section 26 , Unit Letter J,  
NMOCD #1RP 09-16-2366 (Property owner: Dean Kinsolving)

Gladiola SWD Section 26 Release Site T-12-S R-37-E Section 26  
Unit Letter J, NMOCD # 1RP-09-9-2284 This is the same site as 2366 discussed above

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**From:** Bob Lang [mailto:bobl@chaparralenergy.com]  
**Sent:** Wednesday, June 16, 2010 4:48 PM  
**To:** Hansen, Edward J., EMNRD  
**Subject:** Gladiola SWD System, Eddy County, NM Proposal

Mr. Hansen,

Attached is a copy of a letter from Mike Griffin, Whole Earth Environmental, regarding what they propose to do to delineate the problems on the Gladiola SWD System. Our Legal Department wanted you to see it and possibly comment on it if you see anything amiss. As soon as Chaparral obtains the right to start work on the system we propose to have Mike and company move in and start. Either he or I, or both, will call you ahead of time to let you know when we start.

Sincerely,

Bob Lang

Robert C. Lang IV, REM, CEA  
Chaparral Energy, LLC  
EH&S Manager  
405-426-4330 (O)  
405-425-8830 (F)  
405-850-2732 (C)  
[bobl@chaparralenergy.com](mailto:bobl@chaparralenergy.com)

## Hansen, Edward J., EMNRD

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**From:** Hansen, Edward J., EMNRD  
**Sent:** Wednesday, January 20, 2010 5:38 PM  
**To:** 'eng@purvisop.com'  
**Cc:** Johnson, Larry, EMNRD; Patrick McMahan  
**Subject:** Remediation Plan (1R-1739) Further Delineation Required

**RE: "Corrective Action Proposal"  
for the Purvis Operating Company's  
Gladiola SWD Pipeline Release Site  
Unit Letter A, Section 25, T12S, R37E, NMPM, Lea County, New Mexico  
Remediation Plan (1R-1739) Further Delineation Required**

Dear Mr. Brown:

The New Mexico Oil Conservation Division (OCD) has received the corrective action proposal for the Gladiola SWD Pipeline Release Site, dated September 12, 2008, and has conducted a review of the proposal. The proposal, submitted for the above-referenced site, indicates that the Purvis Operating Company (Purvis) has not completed the delineation requirements in accordance with 19.15.29 NMAC (Part 29, formerly, Rule 116). Therefore, the OCD cannot approve the corrective action proposal as submitted. The OCD recommends the following:

1. Purvis shall install a sufficient number of ground water monitoring wells (at least 4 inches in diameter) at the site to delineate possible release to ground water. (This would include the "perched" water zone, which is considered to be ground water.) The well installations shall include samples of soils at 5-foot intervals starting at a depth of 6 to 12 inches bgs. The soil samples shall be analyzed for chloride. Also, respective soil samples shall be analyzed for TPH and BTEX if a there is a detection of hydrocarbons with a PID of 100 ppm or more. (Additional borings may be required if the chloride concentration of 250 mg/Kg is exceeded or the TPH concentration of 100 mg/Kg is exceeded.) The well locations shall be approved by the OCD prior to installation. (Additional monitoring wells may be required if any WQCC standard is exceeded.) The ground water must be analyzed for chloride, TDS, TPH and BTEX.
2. Purvis shall obtain soil samples at 5-foot intervals starting at a depth of 6 to 12 inches bgs to a total depth of 21 feet bgs from sufficient amount of additional borings at or beyond the perimeter of the apparent release boundary. The soil samples shall be analyzed for chloride. Also, respective soil samples shall be analyzed for TPH and BTEX if a there is a detection of hydrocarbons with a PID of 100 ppm or more. (Additional borings may be required if the chloride concentration of 250 mg/Kg is exceeded or the TPH concentration of 100 mg/Kg is exceeded.) The boring locations shall be approved by the OCD prior to installation.
3. Purvis shall submit a report to the OCD with the results of the delineation within 90 days of completion of the first sampling event. The first sampling event (including the soil and ground water samples) shall commence within 90 days. The report must include a cross-section(s) of the site with the contaminate concentrations indicated in the vadose zone and ground water.
4. Purvis shall use the following analytical methods, unless otherwise approved by the OCD:

Chloride (EPA Method 300.0),  
TDS (Standard Method 2540C),

TPH (EPA Method 418.1) and  
BTEX (EPA SW-846 Method 8021B or 8260B).

If you have any questions regarding this matter, please contact me at 505-476-3489.

Edward J. Hansen  
Hydrologist  
Environmental Bureau

P.S.: Please use the OCD case #, **1R-1739**, on future correspondence regarding this site.