1R - 474

GENERAL CORRESPONDENCE

YEAR(S):

2006

Samson

1499 M-32
ALPENA, MI 49707
USA
989/358-8720
FAX: 989/358-8730

December 14, 2006

Mr. Glenn von Gonten
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Samson BD-04, T12S-R33E-Section 2, Unit Letter H
1R0474

Dear Mr. von Gonten:

Under separate cover, R.T. Hicks Consultants is submitting a Remediation Plan (soil and ground water characterization plan) to NMOCD. Samson has reviewed this submission.

Samson intends to mobilize on January 8th, 2007 to begin the installation of the soil borings and temporary monitoring well as outlined in the Remediation Plan. Additionally, Samson requests a conference call with you on December 19th to ensure that the referenced Remediation Plan meets Rule 116 requirements.

If you have any questions concerning this plan, please contact me at 918 591-1370. Samson stands ready to meet with NMOCD as necessary to discuss any outstanding issues.

Sincerely,

Scott Rose
Samson Resources

Copy: Randall Hicks

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

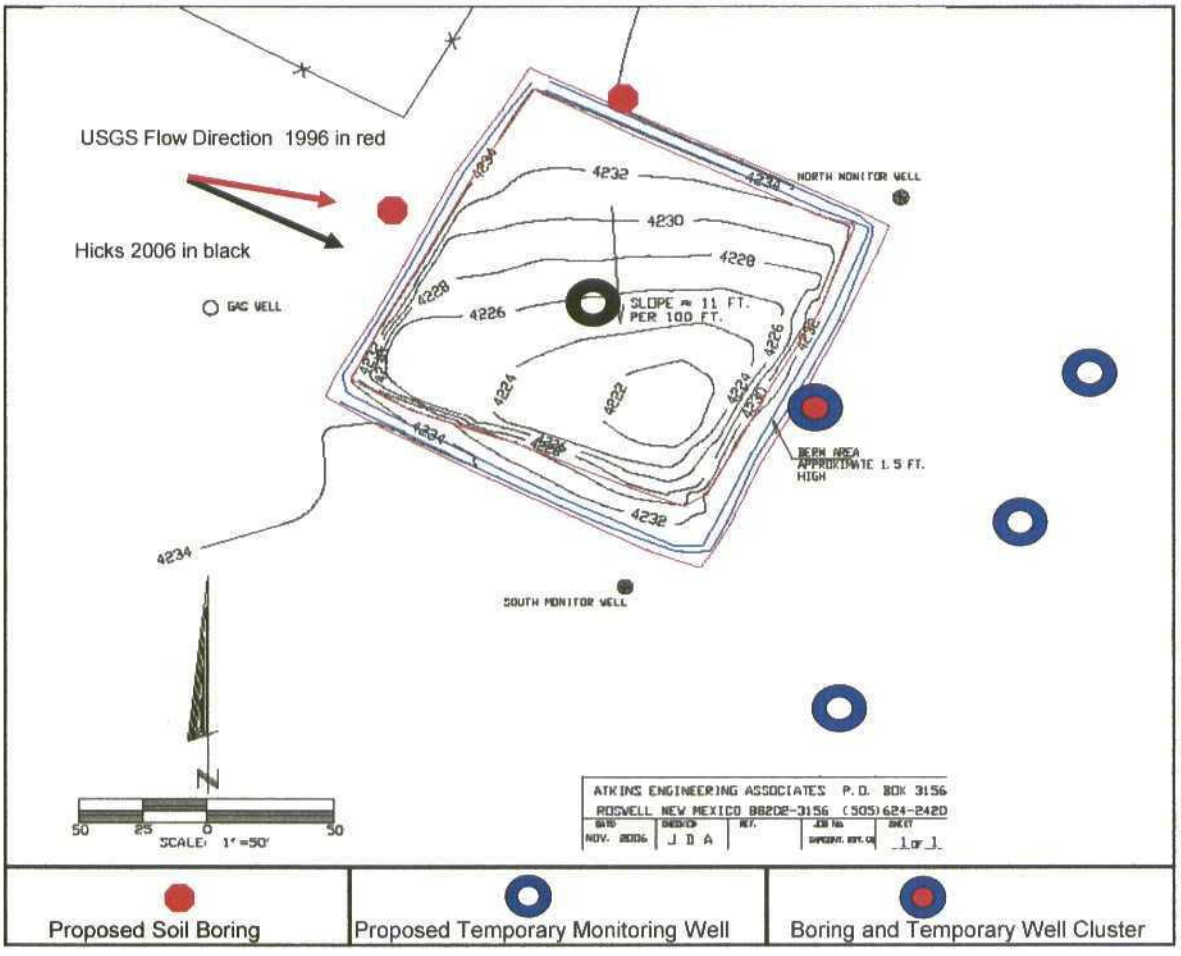
December 13, 2006

Mr. Glenn von Gonten
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Samson BD-04, T12S-R33E-Section 2, Unit Letter H
1R0474

Dear Mr. von Gonten:

On behalf of Samson Resources, R.T. Hicks Consultants offers this Remediation Plan (soil and ground water investigation workplan). Figure 1 shows the proposed locations of additional borings and wells.



In December, ground water samples from the existing monitoring/recovery well (shown as a black circle in the center of the former reserve pit) will be collected

and evaluated by a laboratory for chloride and TDS. The sampling protocol for the monitoring/recovery well has been submitted to NMOCD. The laboratory will follow EPA methods for analyses.

During the week of January 8, a hollow stem auger will install the two proposed soil borings. Each boring will be less than 25 feet from the edge of the former pit. Soil borings will collect 2-foot long, split-spoon samples at 5-foot intervals from 5-feet below ground surface to 45 feet below ground surface, which is below the water table. These split-spoon core samples will be collected in accordance to EPA or ASTM protocols for laboratory analysis of chloride. Laboratory analyses will follow EPA methods. An on-site geologist will record observations of core and drilling conditions and record these observations in a field book. A lithologic log of each boring will summarize the observations.

The soil boring/temporary monitoring well will follow the same protocols outlined above with the following exceptions:

1. The boring will continue to a total depth of about 70 feet or as deep as site data and the capability of the drilling rig dictate.
2. Split-spoon samples from below the water table will be evaluated for lithologic properties and chloride or conductance.
3. Two 2-inch temporary monitoring wells will be placed in the boring.
   a. The upper temporary well will be completed with 5-feet of screen above the water table and 10-feet of screen below the water table in concert with standard practice and NMOCD mandates.
   b. The placement of the lower well screen will be based upon the evaluation of data collected from the monitoring/recovery well installed on December 11, 2006 and on the results of field analysis of split spoon core below the water table. We anticipate that the lower well screen will be placed at or just below the highest conductance/chloride measurement of split spoon core.
4. Bentonite will be placed between the screened intervals.

These temporary wells in the well cluster will be developed by bailing and over-pumping. Ground water sampling will follow EPA and/or ASTM protocols and a laboratory will follow EPA methods for analysis of TDS and chloride.

If warranted, ground water pumping from the monitoring/recovery well will begin in January.

Before January 30, NMOCD will receive a report summarizing the data collected by the field program described above. This report will present specific designs and possibly modified locations for the three monitoring wells shown in Figure 1. The three monitoring wells will be installed during the week of February 5. Figure 1

shows that the location of these monitoring wells is 100 feet from the edge of the former pit.

On or before February 28, NMOCD will receive a progress report that summarizes the data collected in February and March. This report may include recommendations for additional characterization.

Characterization of ground water at sites similar to the BD-04 site is an iterative process. Each step in the process is based upon the data collected during the previous step. Samson is committed to:

- complying with NMOCD Rules,
- applying sound science to the problem at hand and
- protecting fresh water, public health and the environment

Please contact Mr. Scott Rose of Samson if you have any questions or concerns regarding this plan.

Sincerely,
R.T. Hicks Consultants, Ltd.

Randall T. Hicks
Principal

Copy:
Samson Resources, Tom Kocelny, Scott Rose
New Mexico State Land Office

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

RECORD OF COMMUNICATION

To: File, SAMSON RESOURCES - STATE BD NO. 4 LEASE
SECTION 2, TOWNSHIP 12 SOUTH, RANGE 33 EAST
LEA COUNTY, NEW MEXICO
1R0474

Thru: Wayne Price

Copy: Daniel Sanchez, Cheryl O'Connor

From: Glenn von Gonten, Hydrologist

Date: December 12, 2006

At approximately 2:30 PM, December 12, 2006, Wayne Price and I attempted to contact Mr. Scott Rose with Samson Resources. His office number had a message stating that he would be out of the office until December 18, 2006, and left a cell phone number. I tried the cell phone number and was transferred to a voice mail system.

I left a message with Mr. Rose informing him that the submittal by R. T. Hicks on December 11, 2006, was not acceptable and that if he did not comply with OCD's requirements specified in our letter of November 28, 2006, that OCD would take enforcement action, including issuing a Notice of Violation, setting the matter for hearing, and commencing other enforcement actions. I left my name and number.

At approximately 4:25 PM, December 12, 2006, R. T. Hicks called and set up a teleconference with his client, Mr. Rose, Wayne Price, and myself. Mr. Hicks stated that his intent was to give us new information which justified his proposal of December 7, 2006, and that he had submitted it early so that we could discuss it. Wayne and I stated that the approach was not acceptable and reiterated that OCD would pursue enforcement action if Rule 116 was not complied with. Mr. Hicks and Mr. Rose promised that the required workplan would be submitted by December 15, 2006.

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

December 7, 2006

Mr. Glenn von Gonten
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Samson BD-04, T12S-R33E-Section 2, Unit Letter H
(latitude 33° 18' 35" N, longitude 103° 34' 39" W)
1R0474

Dear Mr. von Gonten:

On behalf of Samson Resources, R.T. Hicks Consultants offers this response to the NMOCD letter of November 28. Attachment A is a stand-alone investigation workplan; however, before NMOCD reviews Appendix A, we list some recommendations and observations that may have bearing on any written response from NMOCD regarding this submission.

A. We respectfully request a meeting in Santa Fe on January 10th (prior to the 2 pm Pit Rule Meeting) or the morning of January 12 th, 2007, to:
   a. present the information collected to date,
   b. present the results of the proposed monitoring well/boring characterization and
   c. agree upon any modifications to the workplan.

   Obviously we believed that the Corrective Action Plan (CAP) would be accepted by NMOCD as it summarized the characterization activities conducted to date, provided for additional characterization, proposed a vadose zone and ground water remedy based upon the site data, and included an on-going monitoring schedule. We routinely submit CAPs for Rule 116 sites after the investigation is sufficiently complete to allow the design and implementation of a remedy. Nevertheless, we believe that Attachment A does add value in clarifying our proposed path forward.

   A meeting in January will allow sufficient time for us to complete the characterization program outlined in the CAP, which is the first task presented in the characterization plan. With these data in hand, all parties will be able to make intelligent decisions regarding the path forward.

B. The monitoring well/soil boring proposed in the November, 2006, CAP will be installed and developed on December 11. Plate 3 and Plate 7 of the CAP graphically describe the well and its location in the center of the former reserve pit. The function of this monitoring/recovery well is discussed on

pages 11-12 of the CAP. We will sample this well twice; once after development and a second time before December 21. The protocol described in Attachment A describes how we plan to sample this well in order to obtain discrete samples from each screened interval.

C. Although not called out in the CAP, our standard practice when constructing borings and monitoring wells is to collect samples from core and evaluate these samples for volatile vapors (using a PID) and for chloride (using a field test or in a laboratory). The lack of stating this standard protocol was an oversight on our part and Attachment A describes this approach. We also hope to install observation ports to allow monitoring of the vadose zone below the infiltration barrier.

While we collect additional data at the site, we ask that NMOCD prepare for the proposed January meeting by considering the concerns listed below.

1. In its letter, NMOCD states that the CAP does not "specify how Samson will investigate the soil and ground water contamination." First, we have no evidence at this time that suggests contamination, as we define this term, exists at the site. In my e-copy of the NMOCD Rulebook, the word "contamination" appears 20 times. Although "contamination" is not defined in the Rulebook or the Oil and Gas Act, we have used the word "contamination" to mean ground water that exceeds the WQCC Standards and/or water contaminants in the vadose zone that will with reasonable probability contaminate ground water or surface water in excess of the standards through leaching, percolation, or other transport mechanisms, or through fluctuations of the water table elevation. The following use in the WQCC Regulations (with emphasis added) lends some support to our interpretation:

20.6.2.3107 MONITORING, REPORTING, AND OTHER REQUIREMENTS:
A. Each discharge plan shall provide for the following as the secretary may require:

(11) A closure plan to prevent the exceedance of standards of Section 20.6.2.3103 NMAC or the presence of a toxic pollutant in ground water after the cessation of operation which includes: a description of closure measures, maintenance and monitoring plans, post-closure maintenance and monitoring plans, financial assurance, and other measures necessary to prevent and/or abate such contamination. The obligation to implement the closure plan as well as the requirements of the closure plan, if any is required, survives the termination or expiration of the permit. A closure plan for any underground injection control well must also incorporate the applicable requirements of Sections 20.6.2.5005 and 20.6.2.5209 NMAC.

20.6.2.4106 ABATEMENT PLAN PROPOSAL:

C. (2) Site investigation workplan to define:
(a) site geology and hydrogeology, the vertical and horizontal extent and magnitude of vadose zone and ground-water contamination, subsurface hydraulic parameters including hydraulic conductivity,

transmissivity, storativity, and rate and direction of contaminant migration, inventory of water wells inside and within one (1) mile from the perimeter of the three-dimensional body where the standards set forth in Subsection B of Section 20.6.2.4103 NMAC are exceeded, and location and number of such wells actually or potentially affected by the pollution...

After carefully examining the usage of the word "contamination" in the Rulebook, I think the industry (and certainly this consultant) would benefit from a clear understanding of what this word means to NMOCD. Perhaps chloride concentrations that are 100 ppm above background concentrations but 110 ppm below the WQCC numerical standard is considered "contamination" by NMOCD. If so, we must agree with NMOCD that the CAP does not propose a sufficient plan to investigate "contamination." The ground water beneath the site is certainly impacted by the release from the reserve pit and we have never disputed that finding. At this time, however, we cannot determine if the ground water has been "impaired" or "contaminated" or "polluted" without the installation of the proposed monitoring/recovery well. If our interpretation of the word "contamination" is consistent with the legal interpretations, then we believe the investigation proposal included in the CAP complies with the mandates of Rule 116.

2. NMOCD also states "OCD is requiring Samson to install additional borings and monitor wells to delineate the extent of the chlorides release in soil, bedrock, and ground water...The proposed single recovery/monitor well will not enable Samson to delineate the soil, bedrock, and ground water contamination." As we understand the NMOCD Rulebook, the delineation process may be complete after the installation of the well proposed in the CAP. We base this conclusion on the places in the Rulebook that discuss investigation of release sites, as Rule 116 is silent on this issue. The citation below shows our interpretation (with emphasis added).

19.15.1.9 E. (3) Stage 1 abatement plan. The purpose of Stage 1 of the abatement plan shall be to design and conduct a site investigation that will adequately define site conditions, and provide the data necessary to select and design an effective abatement option.

If sampling the proposed monitoring/recovery well for four quarters demonstrates that ground water beneath the site does not exceed the WQCC Standards, then additional investigation to "provide the data necessary to select and design an effective abatement option" would not be necessary. If sampling shows impairment of fresh water in excess of the WQCC Standards but implementing the pump-and-use remedial strategy restores ground water quality within 3-6 months, then additional investigation would not be necessary. If data show that ground water will remain above WQCC Standards for more than 12 months after implementation of the pump-and-use remedy, then additional characterization (probably under Rule 19) may be warranted. We respectfully request that NMOCD allow the iterative process to proceed as outlined in Attachment A. At the January meeting we

will present the data that will allow all parties to proceed in a manner that is consistent with the rules and sound science. If in the January meeting the parties agree upon a different path forward than that outlined in Attachment A, we will submit the revised plan to NMOCD via email within 7 days of the meeting and via surface mail within 10 business days of the meeting.

3. We apologize for the fact that the paper copy and CD of the report was mailed to NMOCD after Thanksgiving. In the future, we will submit electronic copies of the report via the ftp site on the due date but follow this electronic submission with the paper copy and CD within 3 business days. The Thanksgiving break combined with several vacations to cause an unusual delay in our mail delivery of the submission. This will not happen twice.

4. With respect to the design of the recovery/monitoring well, we have installed three of these wells within the last two months. One of these wells is now operational at the Samson Livestock site and a similar well design was approved by Chief Price for a site in Lea County. The results of discrete ground water sampling program at the Livestock site and the initial success of this well in isolating and recovering high-TDS ground water is highly encouraging and is the subject of a forthcoming submission to NMOCD. We plan to proceed with the installation of the monitoring/recovery well with multiple screened intervals as shown in the Plate 7 of the CAP and in Attachment A.

Finally, "recalcitrance" does not accurately describe the actions of Samson in this matter. The C-141 was submitted immediately after you informed us that we had submitted the incorrect form. Modeling predictions presented in the August, 2006, Remedy Design Report suggested that leaving the reserve pit open could materially exacerbate any impact to ground water caused by the release from the pit. NMOCD indicated that review of the remedy report would require weeks, perhaps months. Samson was facing surface landowner/leaseholder concerns and immediate closure of the pit was paramount since it had already been exposed to the elements for many months. Moreover, characterization of the ground water beneath the pit could not proceed until the pit was filled. Therefore, Samson moved as quickly as possible and in front of NMOCD review to mitigate future impact to ground water and prepare the site for additional characterization. Samson has never disputed the fact that the release from the reserve pit impacted ground water. The transmittal letter (August 18, 2006) clearly states: "The ground water in the monitoring well immediately adjacent to the former pit is impacted but not impaired." Although we may differ on the interpretation of impacted v. impaired v. contamination, it is a difference of semantics and not an indicator of recalcitrance.

Samson is committed to moving forward with additional, scientifically sound characterization and, if necessary, abatement of any ground water pollution. This commitment is expressed not only by this timely response to the NMOCD letter of November 28 but also by the construction of the proposed monitoring/recovery well.

We look forward to presenting new data at our January meeting. Please inform Samson if NMOCD counsel will be present or if the parties can proceed with a technical meeting to agree upon the most appropriate path forward to site closure.

Sincerely,
R.T. Hicks Consultants, Ltd.

Randall T. Hicks
Principal

Copy:
Samson Resources, Tom Kocelny, Scott Rose
New Mexico State Land Office

R. T. HICKS CONSULTANTS, LTD.
901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

Attachment A

Investigation/Characterization Workplan

Because released brine can act similar to a dense non-aqueous phase liquid, an iterative process is required to characterize any impact to ground water quality. One must know if chemical stratification of the ground water zone exists prior to moving forward with additional characterization wells. Monitoring wells completed pursuant to NMOCD guidance (screened in the uppermost portion of the ground water zone) are likely to underestimate any impact caused by certain brine releases. The monitoring/recovery wells proposed in this work plan provides for discrete sampling of the uppermost aquifer as well as lower zones.

The soil and ground water characterization plan for the BD-04 site is simple and is presented graphically as Plate 1.

1. Drill the monitoring/recovery borehole as proposed in the Corrective Action Plan. Use a hollow stem auger to collect vadose zone samples every 5 feet for laboratory analysis of soil moisture and chloride. Drill to a total depth of about 70 feet below land surface.
2. Use the split spoon samples, cuttings, and drill rig behavior to determine the lithologic properties of the vadose zone and saturated zone. Record these observations and measurements in a boring log.
3. Complete a 4-inch monitoring/recovery well as shown in Plate 7 (revised and attached) of the CAP. The actual construction of the well will be determined by the on-site geologist based upon the encountered lithology and field measurements. If possible, allow for 2-3 vadose zone sampling ports for installation of gypsum blocks to monitor moisture content.
4. Fully develop the monitoring/recovery well by over-pumping and surging as required. Water produced from the well (for development or sampling) should be discharged to the produced-water tank used by the nearby oil/gas well. Because seepage from the pit may be considered water produced in association with oil and gas exploration (i.e.: the recovered water from this well contains drilling fluid water or water produced into the pit from the well immediately after drilling), disposal of this recovered water in a Class 2 disposal well should be acceptable.
5. After development, sample each screened interval using the protocol outlined in the attached Standard Operating Procedure. Send samples to the laboratory for analysis of TDS and chloride, which are the constituents of concern at this site.
6. About 1 week after development sampling, re-sample the monitoring/recovery well. Sample MW-1 and MW-2 using standard protocol. For this sampling event,

the laboratory will analyze samples for BTEXN to confirm that regulated petroleum hydrocarbons were not released at this site.

7. Sample all well screens in all wells for four quarters for analysis of TDS and chloride. If results show that ground water does not exceed WQCC Standards, submit a final ground water closure report to NMOCD as stated in the CAP.
8. If one quarterly sample from any well screen shows concentrations above WQCC Standards, identify the well screen in the recovery/monitor well that exhibits the highest concentration. Submit a progress report to NMOCD and for three months pump-and-use the ground water (e.g.: for nearby oil well drilling projects). Use packers in the well as necessary to isolate the pumping horizon. If monthly sampling shows that ground water constituent concentrations are less than WQCC Standards or that standards will be met within three more months of pumping, cease pumping when appropriate, monitor ground water for four quarters then repeat step 7.
9. If after six months of pumping and monitoring, data show that ground water will not meet WQCC standards within a reasonable period of time, install a second recovery/monitoring well 30-100 feet down gradient from the edge of the former reserve pit. Complete this well with an air-rotary rig capable of drilling to the top of the red bed, which is more than 120 feet below land surface. Use the monthly ground water data to determine if a well with three screened intervals is required, as shown in Plate 2. Submit a letter to NMOCD showing the final design of the second monitoring/recovery well 4 weeks prior to scheduled drilling.
10. Repeat the development and sampling protocol conducted for the first monitoring/recovery well. Submit a progress report to NMOCD and include this well in quarterly monitoring program outlined above and repeat step 7 when appropriate or proceed directly to step 11 if laboratory analysis so dictate.
11. If one quarterly sample from any well screen in this second well shows TDS or chloride concentrations above WQCC Standards, identify the well screen in that exhibits the highest value of the constituent. Notify NMOCD and for three months pump-and-use the ground water (e.g.: for nearby oil well drilling projects). Use packers in the well as necessary to isolate the pumping horizon. If monthly sampling shows that ground water constituent concentrations are less than WQCC Standards or those standards will be met within three more months of pumping, cease pumping when appropriate, include this well in the quarterly monitoring program and repeat step 7 when appropriate.
12. If one year of monitoring pursuant to this plan suggests that this remedy is insufficient to restore ground water or that additional characterization is required, submit a revision of this plan to NMOCD.

Data from this site and data from other reserve pit vadose zone investigations (e.g. Samson Livestock, BP Flounder, Rice Operating Company BD SWD) demonstrate to our satisfaction that vertical flow dominates the transport from the base of a pit to ground

water. Vertical transport and the absence of horizontal transport is most likely where saturated flow exists through fractured caliche, as is the situation at this site. Additional characterization of the vadose zone, beyond what is described herein, is not necessary.

All work described herein will be conducted in accordance with applicable EPA, NMOCD, NMED, and ASTM standards or in accordance with the professional judgment of R.T. Hicks Consultants. Laboratory analyses will be consistent with EPA protocols or the equivalent.

Standard Operating Procedure

Collecting Discrete Samples from Monitoring Wells with Multiple Screens

Multiple screens in monitoring/recovery wells should not be employed where the lithology of the saturated zone contains aquicludes because the monitoring well could then become a conduit between a fresh water zone and an impaired horizon within the aquifer. If obvious clay layers are present, individual well clusters may be a better monitoring solution; however, careful installation procedures and the use of packers can mitigate the transport of constituents between hydro-stratigraphic units.

1. In a monitoring/recovery well with two screens (Figure 1):
   a. Place a sampling pump between the uppermost screened interval and the second screen and purge the well at 0.5-2 GPM. This will cause water to flow into the well from the screened intervals above and below the pump.
   b. Lower a bailer into the well and capture a sample from the lower portion of the upper screened interval. This will provide a discrete sample from the uppermost portion of the saturated zone.
   c. Lower a bailer through a piezometer to capture a sample from below the pump. This sample will be a discrete sample from the horizon penetrated by the lower screen. Fixing the purge pump to the piezometers can minimize the tangle of hoses that creates difficulties with lowering a bailer to capture a sample from the upper screen.
2. In a monitoring/recovery well with more than two screens (Figure 2):
   a. Place a sampling pump between the uppermost screened interval and the second screen and purge the well at 0.5-2 GPM. This will cause water to flow into the well from the screened intervals above and below the pump.
   b. Lower a bailer into the well and capture a sample from the lower portion of the upper screened interval. This will provide a discrete sample from the uppermost portion of the saturated zone.
   c. Lower a bailer through the piezometers to capture a sample from each screened interval below the pump. These samples will be a discrete from the horizon penetrated by the screen associated with the piezometer.
3. Measure conductance and other field parameters in the purge water and the discrete samples.
4. If the field parameters or laboratory analyses suggest chemical stratification of the ground water zone and the potential of a migration of contaminates from one horizon to another, install packers as necessary to isolate the screened intervals.

Figure 1: Two-Screen Well

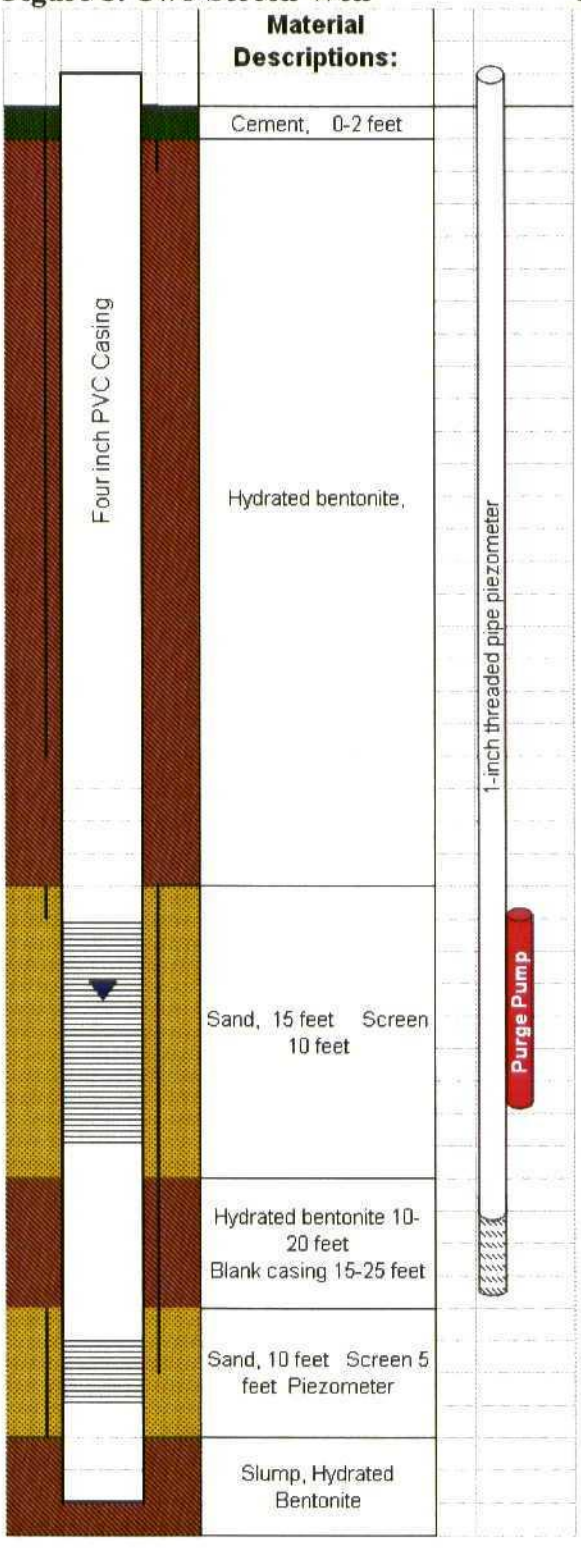
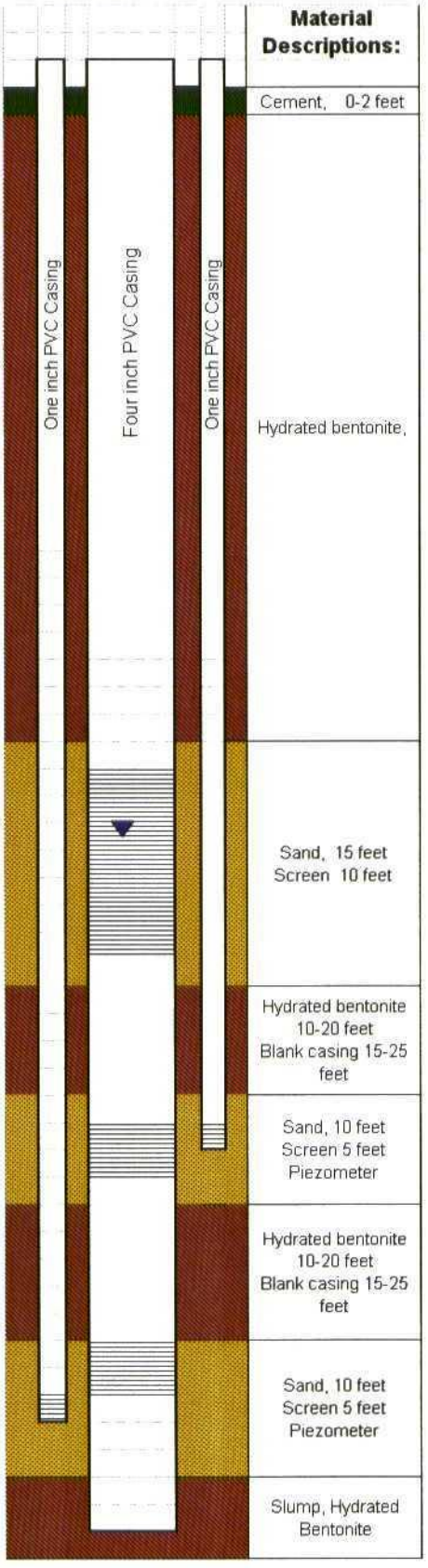
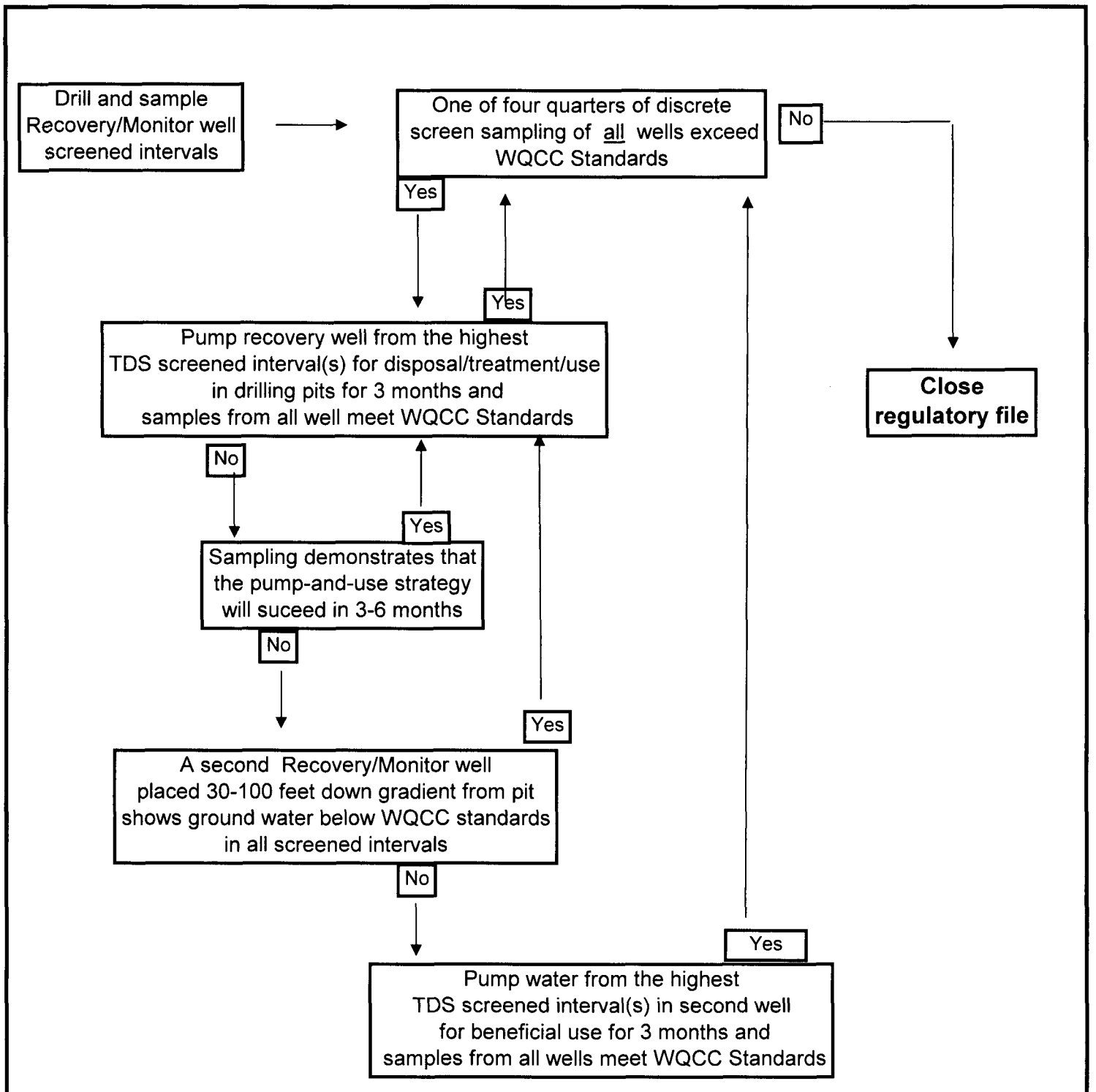


Figure 2: Multiple-Screen Well





R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 505-266-5004	**Samson Resources**	**Plate 1**
	BD-04 ICP Strategy	**December 2006**

Client:	Samson Resources	**Well Description:**	Generic Drawing of Well Construction
Project Name:	BD-04		
Location:			

Comments:

Ground Water is assumed to be 42 feet below ground surface. Well Depths are to be adjusted to actual depth to water.

Material Descriptions:

- Cement, 0-2 feet
- Hydrated bentonite, 2-40 feet
- Sand, 40-55 feet
  Screen 40-50 feet
  Install this screen only if necessary
- Hydrated bentonite, 50-70 feet
- Sand, 70-90 feet
  Screen 75-85 feet
  Piezometer 80 feet
- Hydrated bentonite, to 20-feet above red beds
- Sand 20 feet above red beds to red bed
  10-feet of screen above red bed
  Piezometer at center of screen
- 5-feet
  Slump, Hydrated Bentonite

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 505-266-5004	**Samson Resources BD-04**	**Plate 2**
	Monitoring/Recovery Well Boring	**December, 2006**

Client:	Samson Resources
Project Name:	BD-04
Location:	

Depth (feet)
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
22.0
24.0
26.0
28.0
30.0
32.0
34.0
36.0
38.0
40.0
42.0
44.0
46.0
48.0
50.0
52.0
54.0
56.0
58.0
60.0
62.0
64.0
66.0
68.0
70.0
72.0

Comments:

Ground Water is assumed to be 42 feet below ground surface. Well Depths are to be adjusted to actual depth to water.

Material Descriptions:

Cement, 0-2 feet

Hydrated bentonite, 2-40 feet
Sand surrounds Vadose Zone Sampling Ports

Sand, 35-52 feet
Screen 40-50 feet

3-feet of Hydrated bentonite between 52-62- feet

Sand, 62-72 feet
Screen 65-70 feet

4-inch PVC well casing and screen. Removable 1-inch blank casing to permit discrete sampling of lower screened interval

Vadose Zone Sampling Ports allow for moisture determinations beneath infiltation barrier

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104	**Samson BD-04** **Monitoring/Recovery Well Boring**	**Plate 7** **(revised)** **November 2006**

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

NOVEMBER 28, 2006

Mr. Scott Rose
Samson Resources
Two West Second Street
Tulsa, Oklahoma 74103-3103

RE: NOTICE OF DEFICIENCY
FAILURE TO SUBMIT REMEDIATION PLAN AND FORM C-141
SAMSON RESOURCES - STATE BD NO. 4 LEASE
SECTION 2, TOWNSHIP 12 SOUTH, RANGE 33 EAST
LEA COUNTY, NEW MEXICO
1R0474

Dear Mr. Rose:

The New Mexico Oil Conservation Division (OCD) has reviewed the *Corrective Action Plan* submitted via email on November 16, 2006, by R.T. Hicks Consultants, Ltd. on behalf of Samson Resources (Samson). This document does not meet the requirements that OCD stipulated in its letter of October 19, 2006, and is hereby disapproved. Samson shall have until December 15, 2006, to submit a Remediation Plan that meets all of OCD's requirements. If Samson fails to submit the required Remediation Plan by that date, then OCD will take appropriate enforcement actions to bring it into compliance. Such actions may include a hearing before a division examiner to set a compliance schedule and to impose sanctions, including penalties.

OCD disapproves Samson's submittal for several reasons. The *Corrective Action Plan* that Samson submitted is not a Remediation Plan (soil and ground water investigation workplan) that specifies how Samson will investigate the soil and ground water contamination at its State BD No. 4 Lease pursuant to Rule 116D. OCD's requirement that Samson conduct additional site investigation is the central issue. Neither the work performed to date nor the work that has been proposed will adequately define the release; therefore, OCD is requiring Samson to install additional borings and monitor wells to delineate of the extent of the chlorides release in soil, bedrock, and ground water. Although it may be appropriate for Samson to propose immediate

interim measures, such as the installation and operation of a recovery well, OCD is requiring Samson to thoroughly investigate this site. Only after this task has been completed and a final report has been submitted will OCD consider final remedies. OCD attempted to make this clear when it required Samson to specify in the Remediation Plan "*...that Samson will install as many soil borings and monitoring wells as necessary to delineate the extent of the chlorides contamination in both soil and ground water using an appropriate number of isoconcentration maps and cross sections.*" The proposed single recovery/monitor well will not enable Samson to delineate the soil, bedrock, and ground water contamination. Samson's *Corrective Action Plan* did include a brief discussion of the infiltration barrier that it installed "at risk", but failed to address OCD's requirement that Samson conduct additional investigations.

Samson's *Corrective Action Plan* was submitted via email by R.T. Hicks on November 16, 2006. The email submittal indicated that a paper copy with an electronic version on CDs would be submitted. As of November 27, 2006, OCD has not received the paper and CD copies that were due no later than November 17, 2006. Because the email copy was incomplete and lacked any attachments, including the C-141 and the other attachments referenced in the plan, and because the R.T. Hicks "ftp" site appeared to include documents from other sites, OCD is requiring Samson to submit all future documents via surface mail with an attached CD under a cover letter signed by Samson by the due date.

As noted above, Samson's Remediation Plan is due no later than December 15, 2006. Samson should not submit a Corrective Action Plan, nor a Closure Plan, nor a report. Samson must submit a workplan to investigate the soil and ground water contamination at this site. The Remediation Plan must be a single stand-alone document that includes the investigation workplan, a copy of the C-141, and all other relevant attachments.

OCD has several concerns with Samson's proposed recovery/monitor well depicted on Plate 7. The text of Plate 7 does not match the graphical depiction. In any case, the well would be difficult to install, monitor, and operate. OCD recommends that Samson consider keeping the well program as simple as possible and install two or more clustered wells screened in separate intervals rather than attempt a complicated nested well design. Although sensitive to the issue of Samson having already scheduled a drill rig "at risk", OCD will not approve the proposed recovery/monitor well until we have reviewed the entire Remediation Plan.

Given that Samson has demonstrated a certain recalcitrance about complying with OCD's requirements, such as submitting a C-141, the need for conducting a soil and ground water investigation before closing the site, and disputing whether ground water has been impacted, please be advised that OCD will not tolerate further delay, nor will it grant any time extensions, and is prepared to take appropriate enforcement action to compel Samson to comply with its requirements. Samson is responsible for the timely investigation of this release. If ground water has been impacted above standards, then OCD will require Samson to proactively abate the water pollution.

Samson's Remediation Plan (not a Corrective Action Plan) must meet all of OCD's requirements specified in this letter and our letter of October 19, 2006. If Samson fails to comply with any of OCD's requirements at this point, then it should be prepared for the resulting enforcement actions. If you have any questions about what is being required, please contact me at 505-476-3488 as soon as possible.

Sincerely,

Glenn von Gonten
Senior Hydrologist

cc: Chris Williams, OCD Hobbs District Supervisor
Larry Johnson, OCD Hobbs District
Daniel Sanchez, OCD Enforcement & Compliance Manager
Cheryl O'Connor, Assistant General Counsel
Randall Hicks, R. T. Hicks Consultants

Samson

Samson Plaza
Two West Second Street
Tulsa, Oklahoma 74103-3103
USA
918/591-1791
Fax 918/591-1796

2006 OCT 30 AM 10 34

New Mexico Oil Conservation Division
Environmental Bureau
Attn: Glenn von Gonten
1220 South Saint Francis Drive
Santa Fe, NM 87505

Reference: Samson BD-04, Section 2 T 12S R33E:

Dear Mr. Von Gonten:

Attached is the C-141 form requested in your letter of October 19, 2006. Hopefully, the recent email of Mr. Hicks corrected NMOCD's impression that leakage from former reserve pit caused ground water impairment.

Because ground water impairment has not occurred at the site, we respectfully request that NMOCD reconsider the requirement to submit a Remediation Plan by mid-November. R.T. Hicks Consultants will re-sample the wells within the next two weeks and collect other site data as necessary. We have requested R.T. Hicks Consultants to prepare a brief report summarizing the actions taken at the site since the August 2006 submissions and provide an interpretation of the data. This report will be submitted to NMOCD by mid-November and at that time all parties can discuss the appropriate path forward.

Finally, we request that NMOCD allow Samson to delay final closure of the former pit site until we have completed the actions identified in submissions to NMOCD, including any actions recommended in the mid-November report. If you have any questions concerning this letter or actions taken at the site, please contact me at (918) 591-1370 as I am taking over management of the site for Samson.

Sincerely,

SAMSON RESOURCES COMPANY

Scott Rose
Environmental Specialist

Enclosure
Cc: Randall Hicks – R.T. Hicks Consultants Ltd.

District I
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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
June 1, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☒
Type of action: Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☒

Operator: Samson Resources Company Telephone: 918-591-1370 e-mail address: srose@samson.com
Address: 2 West Second Street, Tulsa, OK 74103-3103
Facility or well name: BD 04 Reserve Pit API #: 300253-566-2000 U/L or Qtr/Qtr _____ Sec 2 T 12S R 33E
County: Lea Latitude 33.30994 Longitude 103.57790 NAD: 1927 ☐ 1983 ☐
Surface Owner: Federal ☐ State ☒ Private ☐ Indian ☐

Pit	**Below-grade tank**
Type: Drilling ☒ Production ☐ Disposal ☐ Workover ☐ Emergency ☐ Lined ☒ Unlined ☐ Liner type: Synthetic ☒ Thickness _____mil Clay ☐ Pit Volume _____bbl	Volume: _____bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes ☐ If not, explain why not.

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.) Ground water may not be present at this site (See Site Investigation Report)	**Less than 50 feet** 50 feet or more, but less than 100 feet 100 feet or more	(20 points) (10 points) (0 points)
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes **No**	(20 points) (0 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet 200 feet or more, but less than 1000 feet **1000 feet or more**	(20 points) (10 points) (0 points)
	Ranking Score (Total Points)	20 points

If this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if your are burying in place) onsite ☒ offsite ☐ If offsite, name of facility_____. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☒ If yes, show depth below ground surface 40 ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments:

The August 2006 Site Investigation Report provides maps of the site, depth to ground water data, results of soil and ground water sampling,.

The August 2006 Closure Plan Design Report describes the proposed closure method, presents information about landfill cover designs tested by Sandia National Laboratories, and presents the modeling of the proposed closure method.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. **I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.**

Date: 10-27-06
Printed Name/Title Scott Rose/ Environmental Specialist Signature Scott Rose

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:
Printed Name/Title _____ Signature _____ Date: _____

VonGonten, Glenn, EMNRD

From: VonGonten, Glenn, EMNRD
Sent: Friday, October 27, 2006 9:16 AM
To: 'Scott Rose'
Cc: randall hicks; Price, Wayne, EMNRD
Subject: RE: State BD-04

Dear Mr. Rose:

The C-144 Form that you have sent is not the correct form. Please note that OCD specifically required Samson to submit a C-141. OCD does not accept Samson's assertion that ground water has not been "impaired." Rule 116B specifies that the Division must be notified both verbally and via form C-141 of any release which is detrimental to water or cause an exceedance of the ground water standards. The data submitted by Samson demonstrates that ground water has been detrimentally impacted above background concentrations by a release from Samson's reserve pit.

OCD has required Samson to submit a Remediation Plan (investigation workplan) to investigate the release. A "report" is not a workplan for investigation. If Samson does not submit the required investigation workplan by the due date, then OCD will take appropriate enforcement actions to bring it into compliance. Such actions may include a hearing before a division examiner to set a compliance schedule and to impose sanctions, including penalties.

OCD agrees that Samson may delay closure until it has complete its investigation. Please not that the due date for Samson to submit its investigation workplan is November 17, 2006.

Also, please note that OCD has not approved the installation of a barrier or any other activity at this site. As I discussed with Mr. Koscelny at a technical meeting in Santa Fe, Samson may proceed with voluntary investigation, remediation, or closure activities, but does so "at risk."

Please call me at 505-476-3488 if you have any questions.

Glenn von Gonten

From: Scott Rose [mailto:SROSE@samson.com]
Sent: Friday, October 27, 2006 8:05 AM
To: VonGonten, Glenn, EMNRD
Cc: randall hicks
Subject: State BD-04

Mr. von Gonten,

Attached you will find the C-144 form that you requested from Samson. A hard copy will sent overnight to your attention. In addition to this let me introduce myself as the new contact at Samson for this project. Tom Koscelny has taken a new position and this project has been transferred to me. If you have any questions regarding this or any other environmental project with Samson I will be the new contact at this email address and the phone numbers below.

Thank you,

Scott Rose
Environmental Specialist
Samson Resources
918-591-1370 Office
918-691-6905 Mobile

VonGonten, Glenn, EMNRD

From: Scott Rose [SROSE@samson.com]
Sent: Friday, October 27, 2006 12:30 PM
To: VonGonten, Glenn, EMNRD
Cc: randall hicks
Subject: C-141 for State BD-04
Attachments: C-141 10-27-06.pdf

Glenn, attached is the C-141 form that you requested for the above referenced site. We will have a report for your review by November 17th. Let me know if you need additional information.

Scott Rose
Environmental Specialist
Samson Resources
918-591-1370 Office
918-691-6905 Mobile

VonGonten, Glenn, EMNRD

From: randall hicks [r@rthicksconsult.com]
Sent: Monday, October 23, 2006 4:41 PM
To: VonGonten, Glenn, EMNRD
Cc: 'Tom Koscelny'; scott@avaloninvestmentsinc.com; 'Mark Sikelianos'
Subject: Samson BD-04

Glenn

Ground water quality has not been impacted at the Samson BD-04 site – as far as we know at this time. As Table 2 of the Closure Plan states, the TDS at MW-1 has fallen from 848 mg/L to 648 mg/L and the chloride values have fallen from 131 mg/L to 115 mg/L.

Table 2
Laboratory Results Summary - Groundwater Samples
Results in mg/L

Monitor Well Sample Date	MW-1 5/12/06	MW-2 5/12/06	MW-1 8/2/06	MW-2 8/2/06	WQCC Standard
Bromide	0.482	0.446			--
Chloride	131	44.5	115	42.2	250
Total Dissolved Solids	838	530	648	444	1,000
Cl/Br Ratio (unitless)	272	100			--

The next sampling event at the site will probably occur next week, along with a recovery test of MW-1 to provide some additional hydraulic conductivity estimates. We are also conducting a water level survey of the area to better define the hydraulic gradient in the area.

If this next sampling event suggests impairment of ground water quality above WQCC Standards, either Samson or I will immediately notify NMOCD.

We will be addressing the other issues in your October 19 letter shortly, including the need to submit a C-141. In the meantime, we are continuing to move forward with the installation of the infiltration barrier as outlined in our August submission. We anticipate completing the barrier installation next week. We are providing a small pad for the installation of an additional well within the pit, as discussed in the August 31 meeting.

From a ground water standpoint, the data are encouraging. We remain confident that after installation of the infiltration barrier, ground water salt concentration will decline further. The most recent rainfall events near Roswell may have created some infiltration, which may lead to a temporary "spike" in the ground water salt concentrations.

If you could copy correspondence relating to Livestock and BD-04 to me, we can provide more timely responses.

Randall Hicks
Tel: 505-266-5004
Cell 505-238-9515

District I
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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Samson Resources	Contact	Scott Rose
Address	2 West Second Street, Tulsa, OK 74103	Telephone No.	918-591 1370
Facility Name	BD O4 Reserve Pit	Facility Type	Reserve Pit

Surface Owner	Mr. Hilburn (tenant)	Mineral Owner	State of NM	Lease No.	15995

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	2	12S	33E	1894	FNL	604	FEL	Lea

Latitude 33.30994 **Longitude** 103.57790

NATURE OF RELEASE

Type of Release Leakage from active/drying reserve pit	Volume of Release unknown	Volume Recovered none
Source of Release Probable failure of liner during pit operation or drying	Date and Hour of Occurrence unknown	Date and Hour of Discovery Laboratory results received 12/05
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? We understand that when laboratory results confirmed a release, the consultant notified NMOCD Hobbs	
By Whom? Ocotillo Environmental was the consultant at that time	Date and Hour unknown We believe this communication occurred in December 2005	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
Not Applicable

Describe Cause of Problem and Remedial Action Taken.*
Residual cuttings were removed to an NMOCD-approved facility by Ocotillo Environmental
Additional characterization included sampling below the excavation, construction of monitoring wells, sampling of ground water, evaluation of the threat to ground water via unsaturated zone modeling, submission of a report to NMOCD, placement of an infiltration barrier to sequester the chloride in the vadose zone and implementation of an on-going monitoring program.

Describe Area Affected and Cleanup Action Taken.*
The leakage from the pit migrated vertically to ground water. Ground water does not exceed state standards, therefore clean-up is not required at this time.

The placement of an infiltration barrier sequesters the residual chloride and other salts in the vadose zone such that water contaminants in the vadose zone will not with reasonable probability contaminate ground water or surface water, in excess of the standards through leaching, percolation, or other transport mechanisms, or as the water table elevation fluctuates.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Scott Rose	Approved by District Supervisor:	
Title: Environmental Specialist	Approval Date:	Expiration Date:
E-mail Address: srose@samson.com	Conditions of Approval:	Attached ☐
Date: 10-27-06 Phone: (918) 591-1370		

* Attach Additional Sheets If Necessary

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

October 19, 2006

Mr. Tom Koscelny
Samson Resources
Two West Second Street
Tulsa, Oklahoma 74103-3103

RE: REQUIREMENT TO SUBMIT REMEDIATION PLAN AND FORM C-141
SAMSON RESOURCES - STATE BD NO. 4 LEASE
SECTION 2, TOWNSHIP 12 SOUTH, RANGE 33 EAST
LEA COUNTY, NEW MEXICO

Dear Mr. Koscelny:

The New Mexico Oil Conservation Division (OCD) has determined, after reviewing the *Closure Plan Investigation Report* and *Closure Plan Design Report* submitted by R.T. Hicks Consultants, Ltd. on behalf of Samson Resources (Samson), that Samson must submit a Remediation Plan to investigate the soil and ground water contamination at its State BD No. 4 Lease, located in Section 2, Township 12 South, Range 33 East, Lea County, New Mexico by November 17, 2006. Samson's *Closure Plan Investigation Report* documents that the chlorides concentration in the ground water at 39 feet was 838 mg/L in Monitoring Well 1, which exceeds the WQCC standards. OCD notes that the two monitor wells were not installed in accordance with OCD guidance. The screened interval below ground water is 15 feet rather than OCD's recommended 10 feet; thus, OCD assumes that the ground water has been impacted by chlorides at concentrations that actually exceed the concentrations reported elsewhere in Samson's report, but has been diluted as a consequence of the long screen interval.

OCD reminds Samson that it was required to submit *immediate verbal notice and timely written notice* to OCD when it determined that ground water had been impacted. This requirement was discussed with you at our technical meeting of August 31, 2006, but to date, Samson has not submitted the required form C-141. Samson must submit a written notification in a form C-141 that documents the appropriate information in the various closure reports and plans and any other relevant information that was given during the technical meeting by no later than October 27, 2006.

As noted above, OCD hereby requires Samson to submit a Remediation Plan pursuant to Rule 116D within 30 days. Samson's Remediation Plan must specify how Samson will investigate the extent of the chlorides contamination in both soils and ground water. The Remediation Plan should specify that Samson will install as many soil borings and monitoring wells as necessary to delineate the extent of the chlorides contamination in both soil and ground water using an appropriate number of isoconcentration maps and cross sections. Samson's proposal must include the installation of at least one monitor well inside the perimeter of the former reserve pit to determine whether chlorides contamination has migrated directly down to ground water. If Samson's soil and ground water investigation detects contamination at concentrations that exceed the Water Quality Control Commission (WQCC) abatement standards specified at 20.6.2.3103 NMAC, then it must immediately notify OCD of this fact and submit a Stage 1 Abatement Plan proposal within sixty (60) days if it has not completely delineated the release. If the extent of the release has been determined, then Samson must submit a Stage 2 Abatement Plan proposal.

After it has completely delineated the release, OCD will determine whether to require additional action from Samson. To avoid any potential conflict with Rule 50, OCD recommends that Samson submit a request pursuant to Rule 50G(2) to delay closure until it has completed its investigation. OCD will not review Samson's *Closure Plan Investigation Report* and *Closure Plan Design Report* until the investigation has been implemented.

Samson should submit one paper copy and one electronic copy of all workplans and/or reports. If you have any questions, please contact me at (505) 476-3488.

Sincerely,

Glenn von Gonten
Senior Hydrologist

cc: Larry Johnson, OCD Hobbs District

R. T. HICKS CONSULTANTS, LTD.
901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

August 18, 2006

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Samson BD-04, T12S-R33E-Section 2, Unit Letter H
(latitude 33° 18' 35" N, longitude 103° 34' 39" W)

Dear Mr. Price:

Mr. Von Gotten suggested that we submit the closure plan document for the BD-04 site to your attention because a recent ground water sampling event confirmed our conclusion that fluids originating in the former reserve pit have reached ground water. The ground water in the monitoring well immediately adjacent to the former pit is impacted but not impaired. Background concentrations of ground water are about 40 ppm chloride and the down gradient monitoring well shows 130 ppm chloride. Our HYDRUS-1D modeling shows that chloride will be effectively sequestered in the vadose zone and ground water will not exceed the WQCC Standards after installation of the proposed pit closure design (ET infiltration barrier).

We believe the attached report will show that reporting under Rule 116 is not required because released constituents are not

> *"in such quantity as may with reasonable probability be detrimental to water or cause an exceedance of the standards in Section 19, Subsection B, Paragraphs (1) and (2) or (3) of 19.15.1 NMAC."* (Subsection B, 19.15.3.116)

We believe Rule 19 does not apply to this site because:

> *"water contaminants in the vadose zone will not with reasonable probability contaminate ground water or surface water, in excess of the standards in Paragraphs (2) and (3) below, through leaching, percolation, or other transport mechanisms, or as the water table elevation fluctuates.*
>
> *(2) Ground-water pollution at any place of withdrawal for present or reasonably foreseeable future use, where the TDS concentration is 10,000 mg/L or less, shall be abated to conform to the following standards:*
>
> *(a) Toxic pollutant(s) as defined in 20.6.2.7 NMAC shall not be present; and*
>
> *(b) The standards of 20.6.2.3103 NMAC shall be met.*
>
> *(3) Surface-water pollution shall be abated to conform to the Water Quality Standards for Interstate* and Intrastate Surface Waters in New Mexico 20.6.4 NMAC." (19.15.1.19.B)

Instead, we anticipate that NMOCD will approve of the attached pit closure protocol under Rule 50. Because constituents from the former pit have entered ground water, the proposed drilling pit closure plan calls for two years of ground water monitoring (six additional sampling events) to verify that the HYDRUS-1D modeling overestimates the potential impact to ground water.

We look forward to meeting with you and Mr. Von Gotten on August 31, 1:30 pm to address any questions NMOCD may have concerning this submission.

Sincerely,
R.T. Hicks Consultants, Ltd.

Randall T. Hicks
Principal

Copy:
Samson Investments, Tom Kocelny