

**BW - 28**

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**PERMITS,  
RENEWALS,  
& MODS**

ACKNOWLEDGEMENT OF RECEIPT  
OF CHECK/CASH

Hereby acknowledge receipt of check No.                      dated 3/11/11

or cash received on                      in the amount of \$ 100<sup>00</sup>

from                     

for BW-28

Submitted by: Lawrence Rocco Date: 6/13/11

Submitted to ASD by: Lawrence Rocco Date: 6/13/11

Received in ASD by:                      Date:                     

Filing Fee ☒ New Facility                      Renewal                     

Modification                      Other                     

Organization Code 521.07 Applicable FY 2010

To be deposited in the Water Quality Management Fund.

Full Payment                      or Annual Increment

## Chavez, Carl J, EMNRD

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, December 15, 2010 9:48 AM  
**To:** 'Gibson, Dan'  
**Cc:** VonGonten, Glenn, EMNRD  
**Subject:** FW: Minor Permit Modification Request for BW-028 ( State S Brine Station in Eunice) API# 30-025-33547  
**Attachments:** DP BW-028 12-15-10.doc

Dan, per Glenn's request, please see the attachment. Thank you.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3490  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
(Pollution Prevention Guidance is under "Publications")

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**From:** VonGonten, Glenn, EMNRD  
**Sent:** Wednesday, December 15, 2010 8:56 AM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** RE: Minor Permit Modification Request for BW-028 ( State S Brine Station in Eunice) API# 30-025-33547

Carl,

Please mod the one page of the permit and send to Dan.

Thanks.

Glenn

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Tuesday, December 14, 2010 2:24 PM  
**To:** Gibson, Dan  
**Cc:** VonGonten, Glenn, EMNRD; Griswold, Jim, EMNRD  
**Subject:** RE: Minor Permit Modification Request for BW-028 ( State S Brine Station in Eunice) API# 30-025-33547

Mr. Gibson:

The Oil Conservation Division (OCD) is in receipt of Key Energy Services, L.L.C.'s "Minor Modification" request to amend the Section 21(L) "Annual Report" section of your permit from "January 31<sup>st</sup>" to March 31<sup>st</sup> of each year.

The OCD hereby approves the above "Minor Modification" to the above subject OCD Discharge Permit.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505

Office: (505) 476-3490  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
(Pollution Prevention Guidance is under "Publications")

---

**From:** Gibson, Dan [<mailto:dgibson@keyenergy.com>]  
**Sent:** Thursday, December 09, 2010 12:49 PM  
**To:** Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD  
**Cc:** Chavez, Carl J, EMNRD; Wayne Price ([wayneprice77@earthlink.net](mailto:wayneprice77@earthlink.net)); Molleur, Loren; Miller, Robyn  
**Subject:** Minor Permit Modification Requests for UIC-5 (Farmington/Sunco Class 1 Well) and BW-028 ( State S Brine Station in Eunice)  
**Importance:** High

Dear Sirs:

Key Energy Services, Inc. requests minor permit modifications to Section 22 L of the permits for the subject wells in regard to the due dates for the annual reports. The permits for both these wells currently require submittal of the reports by January 31 of each year. Key requests the due date for the annual reports for both permits be modified to March 31 of each year.

The report for UIC-5 is complex and requires considerable time to prepare. In addition, the local laboratory in Farmington cannot perform some of the analyses required by the comprehensive sampling and these samples are shipped to another location for analyses. The January 31 deadline will be difficult to meet. The additional time will also allow Key to prepare better quality reports that are complete, accurate, and easier for OCD staff to review. Modifying the report date for BW-028 allows all Key reports to be due at the same time and allows Key to better manage internal resources.

Please contact me if you have any questions regarding these requests.

Thank you.

---

**Daniel K. Gibson, P.G. | Key Energy Services, Inc. | Corporate Environmental Director**  
6 Desta Drive, Suite 4300, Midland, TX 79705 | o: 432.571.7536 | c: 432.638-6134 | e: [dgibson@keyenergy.com](mailto:dgibson@keyenergy.com)





# New Mexico Energy, Minerals and Natural Resources Department

**Bill Richardson**

Governor

**Jim Noel**

Cabinet Secretary

**Karen W. Garcia**

Deputy Cabinet Secretary

**Mark Fesmire**

Division Director

Oil Conservation Division



December 15, 2010

## **UIC-Class III Brine Well 28 (BW-028) "Minor Modification"**

### **21. Brine Well(s) Identification, Operation, Monitoring, Bonding and Reporting.**

**L. Annual Report:** All operators shall submit an annual report due on March 31<sup>st</sup> of each year. The report shall include the following information:

1. Cover sheet marked as "Annual Brine Well Report, name of operator, BW permit #, API# of well(s), date of report, and person submitting report.
2. Brief summary of brine wells operations including description and reason for any remedial or major work on the well. Copy of C-103.
3. Production volumes as required above in 21.G. including a running total should be carried over to each year. The maximum and average injection pressure.
4. A copy of the chemical analysis as required above in 21.H.
5. A copy of any mechanical integrity test chart, including the type of test, i.e. open to formation or casing test.
6. Brief explanation describing deviations from normal production methods.
7. A copy of any leaks and spills reports.
8. If applicable, results of any groundwater monitoring.
9. Information required from cavity/subsidence 21.F. above.
10. An Area of Review (AOR) summary.
11. Sign-off requirements pursuant to WQCC Subsection G 20.6.2.5101.



## Chavez, Carl J, EMNRD

---

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**Sent:** Tuesday, December 14, 2010 2:24 PM  
**To:** 'Gibson, Dan'  
**Cc:** VonGonten, Glenn, EMNRD; Griswold, Jim, EMNRD  
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The OCD hereby approves the above "Minor Modification" to the above subject OCD Discharge Permit.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3490  
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Website: <http://www.emnrd.state.nm.us/oed/index.htm>  
(Pollution Prevention Guidance is under "Publications")

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Key Energy Services, Inc. requests minor permit modifications to Section 22 L of the permits for the subject wells in regard to the due dates for the annual reports. The permits for both these wells currently require submittal of the reports by January 31 of each year. Key requests the due date for the annual reports for both permits be modified to March 31 of each year.

The report for UIC-5 is complex and requires considerable time to prepare. In addition, the local laboratory in Farmington cannot perform some of the analyses required by the comprehensive sampling and these samples are shipped to another location for analyses. The January 31 deadline will be difficult to meet. The additional time will also allow Key to prepare better quality reports that are complete, accurate, and easier for OCD staff to review. Modifying the report date for BW-028 allows all Key reports to be due at the same time and allows Key to better manage internal resources.

Please contact me if you have any questions regarding these requests.

Thank you.

---

**Daniel K. Gibson, P.G. | Key Energy Services, Inc. | Corporate Environmental Director**

6 Desta Drive, Suite 4300, Midland, TX 79705 | o: 432.571.7536 | c: 432.638-6134 | e: [dgibson@keyenergy.com](mailto:dgibson@keyenergy.com)



Key Energy Services  
6 Desta Drive  
Suite 4400  
Midland, Texas 79705

Telephone: 432.620.0300

Facsimile: 432.571.7173

www.keyenergy.com

RECEIVED

2008 APR 14 PM 1 31

April 10, 2008

Mr. Wayne Price  
Environmental Bureau Chief  
Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, New Mexico 87505

Re: Discharge Permit City of Carlsbad Well No. 1 Brine Well (BW-019) Renewal  
Discharge Permit State Well No. 1 Brine Well (BW-028) Renewal

Dear Mr. Price:

Enclosed you will find the original renewals referenced above along with Key's check in the amount of \$3,400.00 for the renewal fees.

If you need anything else, please do not hesitate to contact me at 432 571-7116 or Louis Sanchez at 432 571-7382.

Sincerely,

A handwritten signature in black ink that reads "Robyn Miller". The signature is written in a cursive, flowing style.

Robyn Miller, CLA

Enclosures

NM-13032

NM-13035

ACKNOWLEDGEMENT OF RECEIPT  
OF CHECK/CASH

I hereby acknowledge receipt of check No.                      dated 4/2/08

or cash received on                      in the amount of \$ 1700<sup>00</sup>

from Key Energy Services

for BW-28

Submitted by: LAWRENCE PONERO Date: 8/18/08

Submitted to ASD by: LAWRENCE PONERO Date: 8/18/08

Received in ASD by:                                      Date:                     

Filing Fee            New Facility            Renewal           

Modification            Other                                     

Organization Code 521.07 Applicable FY 2004

To be deposited in the Water Quality Management Fund.

Full Payment ☒ or Annual Increment



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

March 7, 2008

Mr. Louis Sanchez  
Key Energy Services, Inc.  
6 Desta Drive, Suite 4400  
Midland, Texas 79705

**Re: Discharge Permit State Well No. 1 Brine Well (BW-028) Renewal**

Dear Mr. Sanchez:

Pursuant to all applicable parts of the Water Quality Control Commission (WQCC) Regulations 20.6.2 NMAC and more specifically 20.6.2.3104 - 20.6.2.3999 discharge permit, and 20.6.2.5000-.5299 Underground Injection Control, the Oil Conservation Division (OCD) hereby approves the discharge permit and authorizes the operation and injection for the Key Energy Services, Inc. (**Owner/Operator**) brine well BW-028 (API# 30-025-33547) located in the SW/4, NW/4 of Section 15, Township 21 South, and Range 37 East, NMPM, Lea County, New Mexico, under the conditions specified in the enclosed **Attachment To The Discharge Permit**.

Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 working days of receipt of this Letter including permit fees.**

Please be advised that approval of this permit does not relieve the owner/operator of responsibility should operations result in pollution of surface water, ground water or the environment. Nor does approval of the permit relieve the owner/operator of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If you have any questions, please contact Carl Chavez of my staff at (505-476-3491) or E-mail [carlj.chavez@state.nm.us](mailto:carlj.chavez@state.nm.us). On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Wayne Price

Environmental Bureau Chief

LWP/cc

Attachments-1

xc: OCD District Office

**ATTACHMENT TO THE DISCHARGE PERMIT  
Key Energy Services, Inc. Brine Well (BW-028)  
DISCHARGE PERMIT APPROVAL CONDITIONS**

**March 7, 2008**

**Please remit a check for \$1700.00 made payable to Water Quality Management Fund:**

**Water Quality Management Fund  
C/o: Oil Conservation Division  
1220 S. Saint Francis Drive  
Santa Fe, New Mexico 87505**

- 1. Payment of Discharge Plan Fees:** All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application will be assessed a filing fee of \$100.00, plus a renewal flat fee (*see* WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division ("OCD") has received the required \$100.00 filing fee. However, the owner/operator still owes the required \$1,700.00 permit fee for a Class III Brine Well.
- 2. Permit Expiration and Renewal:** Pursuant to WQCC Regulation 20.6.2.3109.H.4 NMAC, this permit is valid for a period of five years. **The permit will expire on July 18, 2011** and an application for renewal should be submitted no later than 120 days before that expiration date. Pursuant to WQCC Regulation 20.6.2.3106.F NMAC, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. *Expired permits are a violation of the Water Quality Act {Chapter 74, Article 6, NMSA1978} and civil penalties may be assessed accordingly.*
- 3. Permit Terms and Conditions:** Pursuant to WQCC Regulation 20.6.2.3104 NMAC, when a permit has been issued, the owner/operator must ensure that all discharges shall be consistent with the terms and conditions of the permit. In addition, all facilities shall abide by the applicable rules and regulations administered by the OCD pursuant to the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38.
- 4. Owner/Operator Commitments:** The owner/operator shall abide by all commitments submitted in its September 17, 2007 discharge permit application, including attachments and subsequent amendments and these conditions for approval. Permit applications that reference previously approved plans on file with the division shall be incorporated in this permit and the owner/operator shall abide by all previous commitments of such plans and these conditions for approval.
- 5. Modifications:** WQCC Regulation 20.6.2.3107.C, 20.6.2.3109 and 20.6.2.5101.I NMAC addresses possible future modifications of a permit. The owner/operator (discharger) shall notify



the OCD of any facility expansion, production increase or process modification that would result in any significant modification in the discharge of water contaminants. The Division Director may require a permit modification if any water quality standard specified at 20.6.2.3103 NMAC is being or will be exceeded, or if a toxic pollutant as defined in WQCC Regulation 20.6.2.7 NMAC is present in ground water at any place of withdrawal for present or reasonably foreseeable future use, or that the Water Quality Standards for Interstate and Intrastate streams as specified in 20.6.4 NMAC are being or may be violated in surface water in New Mexico.

**6. Waste Disposal and Storage:** The owner/operator shall dispose of all wastes at an OCD-approved facility. Only oil field RCRA-exempt wastes may be disposed of by injection in a Class II well. RCRA non-hazardous, non-exempt oil field wastes may be disposed of at an OCD-approved facility upon proper waste determination pursuant to 40 CFR Part 261. Any waste stream that is not listed in the discharge permit application must be approved by the OCD on a case-by-case basis.

**A. OCD Rule 712 Waste:** Pursuant to OCD Rule 712 (19.15.9.712 NMAC) disposal of certain non-domestic waste without notification to the OCD is allowed at NMED permitted solid waste facilities if the waste stream has been identified in the discharge permit and existing process knowledge of the waste stream does not change.

**B. Waste Storage:** The owner/operator shall store all waste in an impermeable bermed area, except waste generated during emergency response operations for up to 72 hours. All waste storage areas shall be identified in the discharge permit application. Any waste storage area not identified in the permit shall be approved on a case-by-case basis only. The owner/operator shall not store oil field waste on-site for more than 180 days unless approved by the OCD.

**7. Drum Storage:** The owner/operator must store all drums, including empty drums, containing materials other than fresh water on an impermeable pad with curbing. The owner/operator must store empty drums on their sides with the bungs in place and lined up on a horizontal plane. The owner/operator must store chemicals in other containers, such as tote tanks, sacks, or buckets on an impermeable pad with curbing.

**8. Process, Maintenance and Yard Areas:** The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases, leaks and spills have reached the ground surface.

**9. Above Ground Tanks:** The owner/operator shall ensure that all aboveground tanks have impermeable secondary containment (e.g., liners and berms), which will contain a volume of at least one-third greater than the total volume of the largest tank or all interconnected tanks. The owner/operator shall retrofit all existing tanks before discharge permit renewal. Tanks that contain fresh water or fluids that are gases at atmospheric temperature and pressure are exempt from this condition.



**10. Labeling:** The owner/operator shall clearly label all tanks, drums, and containers to identify their contents and other emergency notification information. The owner/operator may use a tank code numbering system, which is incorporated into their emergency response plans.

**11. Below-Grade Tanks/Sumps and Pits/Ponds.**

**A.** All below-grade tanks and sumps must be approved by the OCD prior to installation and must incorporate secondary containment with leak detection into the design. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal. All existing below-grade tanks and sumps without secondary containment and leak detection must be tested annually or as specified herein. Systems that have secondary containment with leak detection shall have a monthly inspection of the leak detection system to determine if the primary containment is leaking. Small sumps or depressions in secondary containment systems used to facilitate fluid removal are exempt from these requirements if fluids are removed within 72 hours.

**B.** All pits and ponds, including modifications and retrofits, shall be designed by a certified registered professional engineer and approved by the OCD prior to installation. In general, all pits or ponds shall have approved hydrologic and geologic reports, location, foundation, liners, and secondary containment with leak detection, monitoring and closure plans. All pits or ponds shall be designed, constructed and operated so as to contain liquids and solids in a manner that will protect fresh water, public health, safety and the environment for the foreseeable future. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal.

**C.** The owner/operator shall ensure that all exposed pits, including lined pits and open top tanks (8 feet in diameter or larger) shall be fenced, screened, netted, or otherwise rendered non-hazardous to wildlife, including migratory birds.

**D.** The owner/operator shall maintain the results of tests and inspections at the facility covered by this discharge permit and available for OCD inspection. The owner/operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 15 days. The owner/operator may propose various methods for testing such as pressure testing to 3 pounds per square inch greater than normal operating pressure and/or visual inspection of cleaned tanks and/or sumps, or other OCD-approved methods. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

**12. Underground Process/Wastewater Lines:**

**A.** The owner/operator shall test all underground process/wastewater pipelines at least once every five (5) years to demonstrate their mechanical integrity, except lines containing fresh water or fluids that are gases at atmospheric temperature and pressure. Pressure rated pipe shall be tested by pressuring up to one and one-half times the normal operating pressure, if possible, or for

atmospheric drain systems, to 3 pounds per square inch greater than normal operating pressure, and pressure held for a minimum of 30 minutes with no more than a 1% loss/gain in pressure. The owner/operator may use other methods for testing if approved by the OCD.

**B.** The owner/operator shall maintain underground process and wastewater pipeline schematic diagrams or plans showing all drains, vents, risers, valves, underground piping, pipe type, rating, size, and approximate location. All new underground piping must be approved by the OCD prior to installation. The owner/operator shall report any leaks or loss of integrity to the OCD within 15 days of discovery. The owner/operator shall maintain the results of all tests at the facility covered by this discharge permit and they shall be available for OCD inspection. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

**13. Class V Wells:** The owner/operator shall close all Class V wells (e.g., septic systems, leach fields, dry wells, etc.) that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes unless it can be demonstrated that ground water will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only, must be permitted by the New Mexico Environment Department (NMED).

**14. Housekeeping:** The owner/operator shall inspect all systems designed for spill collection/prevention and leak detection at least monthly to ensure proper operation and to prevent over topping or system failure. All spill collection and/or secondary containment devices shall be emptied of fluids within 72 hours of discovery. The owner/operator shall maintain all records at the facility and available for OCD inspection.

**15. Spill Reporting:** The owner/operator shall report all unauthorized discharges, spills, leaks and releases and conduct corrective action pursuant to WQCC Regulation 20.5.12.1203 NMAC and OCD Rule 116 (19.15.3.116 NMAC). The owner/operator shall notify both the OCD District Office and the Santa Fe Office within 24 hours and file a written report within 15 days.

**16. OCD Inspections:** The OCD may place additional requirements on the facility and modify the permit conditions based on OCD inspections.

**17. Storm Water:** The owner/operator shall implement and maintain run-on and runoff plans and controls. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) including any oil sheen in any storm water run-off. The owner/operator shall notify the OCD within 24 hours of discovery of any releases and shall take immediate corrective action(s) to stop the discharge.

**18. Unauthorized Discharges:** The owner/operator shall not allow or cause water pollution, discharge or release of any water contaminant that exceeds the WQCC standards listed in

20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) unless specifically listed in the permit application and approved herein. **An unauthorized discharge is a violation of this permit.**

**19. Vadose Zone and Water Pollution:** The owner/operator shall address any contamination through the discharge permit process or pursuant to WQCC 20.6.2.4000-.4116 NMAC (Prevention and Abatement of Water Pollution). The OCD may require the owner/operator to modify its permit for investigation, remediation, abatement, and monitoring requirements for any vadose zone or water pollution. Failure to perform any required investigation, remediation, abatement and submit subsequent reports will be a violation of the permit.

**20. Additional Site Specific Conditions:** N/A

**21. Brine Well(s) Identification, Operation, Monitoring, Bonding and Reporting.**

**A. Well Identification:** API # 30-025-33547

**B. Well Work Over Operations:** OCD approval will be obtained prior to performing remedial work, pressure test or any other work. Approval will be requested on OCD Form C-103 "Sundry Notices and Reports on Wells" (OCD Rule 1103.A.) with appropriate copies sent to the OCD Environmental Bureau and District Office.

**C. Production Method:** Fresh water will be injected down the casing and brine shall be recovered up the tubing. Reverse flow will be allowed only once a month for up to 24 hours for clean out. Operators may request long term reverse operation if they can demonstrate that additional casing and monitoring systems are installed and approved by OCD. Operating in the reverse mode for more than 24 hours unless approved otherwise is a violation of this permit.

**D. Well Pressure Limits:** **The maximum operating surface injection and/or test pressure measured at the wellhead shall not exceed 405 psig unless otherwise approved by the OCD.** The operator shall have a working pressure limiting device or controls to prevent overpressure. Any pressure that causes new fractures or propagate existing fractures or causes damage to the system shall be reported to OCD within 24 hours of discovery.

**E. Mechanical Integrity Testing:** Conduct an annual open to formation pressure test by pressuring up the formation with approved fluids or gas to a minimum of 300 psig measured on the surface casing for four hours. However, no operator may exceed test pressures that may cause formation fracturing (see item 21.D above) or system failures. Systems requiring test pressures less than 300 psig must be approved by OCD prior to testing. At least once every five years and during well work-overs the salt cavern formation will be isolated from the casing/tubing annulus and the casing

pressure tested at 300 psig for 30 minutes. All pressure tests must be performed per the scheduled shown below and witnessed by OCD unless otherwise approved.

**Testing Schedule:**

2007- 4 hour @ 300 psig casing open to formation test  
2008- 30 minute @ 300 psig casing test only (set packer to isolate formation)  
2009- 4 hour @ 300 psig casing open to formation test  
2010- 4 hour @ 300 psig casing open to formation test  
2011- 4 hour @ 300 psig casing open to formation test

- F. Capacity/ Cavity Configuration and Subsidence Survey: The operator shall provide information on the size and extent of the solution cavern and geologic/engineering data demonstrating that continued brine extraction will not cause surface subsidence, collapse or damage to property, or become a threat to public health and the environment. This information shall be supplied in each annual report. OCD may require the operator to perform additional well surveys, test, and install subsidence monitoring in order to demonstrate the integrity of the system. If the operator cannot demonstrate the integrity of the system to the satisfaction of the Division then the operator may be required to shut-down, close the site and properly plug and abandoned the well.

**Any subsidence must be reported within 24 hours of discovery.**

- G. Production/Injection Volumes: The volumes of fluids injected (fresh water) and produced (brine) will be recorded monthly and submitted to the OCD Santa Fe Office in the annual report.
- H. Analysis of Injection Fluid and Brine: Provide an analysis of the injection fluid and brine with each annual report. Analysis will be for General Chemistry (method 40 CFR 136.3) using EPA methods.
- I. Area of Review (AOR): The operator shall report within 24 hours of discovery of any new wells, conduits, or any other device that penetrates or may penetrate the injection zone within ¼ mile from the brine well.
- J. Loss of Mechanical Integrity: The operator shall report within 24 hours of discovery of any failure of the casing, tubing or packer, or movement of fluids outside of the injection zone. The operator shall cease operations until proper repairs are made and the operator receives OCD approval to re-start injection operations.
- K. Bonding or Financial Assurance: The operator shall maintain at a minimum, a one well plugging bond in the amount of \$50,000.00 to restore the site, plug and abandon



the well by January 1, 2008, pursuant to OCD rules and regulations. If warranted, OCD may require additional financial assurance.

**L. Annual Report:** All operators shall submit an annual report due on January 31 of each year. The report shall include the following information:

1. Cover sheet marked as "Annual Brine Well Report, name of operator, BW permit #, API# of well(s), date of report, and person submitting report.
2. Brief summary of brine wells operations including description and reason for any remedial or major work on the well. Copy of C-103.
3. Production volumes as required above in 21.G. including a running total should be carried over to each year. The maximum and average injection pressure.
4. A copy of the chemical analysis as required above in 21.H.
5. A copy of any mechanical integrity test chart, including the type of test, i.e. open to formation or casing test.
6. Brief explanation describing deviations from normal production methods.
7. A copy of any leaks and spills reports.
8. If applicable, results of any groundwater monitoring.
9. Information required from cavity/subsidence 21.F. above.
10. An Area of Review (AOR) summary.
11. Sign-off requirements pursuant to WQCC Subsection G 20.6.2.5101.

**22. Transfer of Discharge Permit:** Pursuant to WQCC 20.6.2.5101.H the owner/operator and new owner/operator shall provide written notice of any transfer of the permit. Both parties shall sign the notice 30 days prior to any transfer of ownership, control or possession of a facility with an approved discharge permit. In addition, the purchaser shall include a written commitment to comply with the terms and conditions of the previously approved discharge permit. OCD will not transfer brine well operations until proper bonding or financial assurance is in place and approved by the division. OCD reserves the right to require a modification of the permit during transfer.

**23. Closure:** The owner/operator shall notify the OCD when operations of the facility are to be discontinued for a period in excess of six months. Prior to closure of the facility, the operator shall submit for OCD approval, a closure plan including a completed C-103 form for plugging and abandonment of the well(s). Closure and waste disposal shall be in accordance with the statutes, rules and regulations in effect at the time of closure.

~~XXXXXXXXXXXXXXXXXXXX~~ KEY ENERGY SERVICES, LLC

**24. Certification:** ~~Sanchez Corporation~~ **(Owner/Operator)**, by the officer whose signature appears below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained here. **Owner/Operator** further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, safety, and the environment, change the conditions and requirements of this permit administratively.

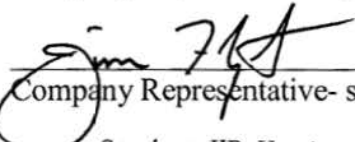
Mr. Louis Sanchez  
State Well No. 1 (BW-028)  
March 7, 2008  
Page 9 of 9

Conditions accepted by: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

KEY ENERGY SERVICES, LLC  
Company Name-print name above

Jim Flynt

\_\_\_\_\_  
Company Representative- print name

  
\_\_\_\_\_  
Company Representative- signature

Title Senior VP Western Region

Date: 4/8/08



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

Oil Conservation Division

March 7, 2008

Mr. Louis Sanchez  
Key Energy Services, Inc.  
6 Desta Drive, Suite 4400  
Midland, Texas 79705

**Re: Discharge Permit State Well No. 1 Brine Well (BW-028) Renewal**

Dear Mr. Sanchez:

Pursuant to all applicable parts of the Water Quality Control Commission (WQCC) Regulations 20.6.2 NMAC and more specifically 20.6.2.3104 - 20.6.2.3999 discharge permit, and 20.6.2.5000-.5299 Underground Injection Control, the Oil Conservation Division (OCD) hereby approves the discharge permit and authorizes the operation and injection for the Key Energy Services, Inc. (**Owner/Operator**) brine well BW-028 (API# 30-025-33547) located in the SW/4, NW/4 of Section 15, Township 21 South, and Range 37 East, NMPM, Lea County, New Mexico, under the conditions specified in the enclosed **Attachment To The Discharge Permit**.

Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 working days of receipt of this Letter including permit fees.**

Please be advised that approval of this permit does not relieve the owner/operator of responsibility should operations result in pollution of surface water, ground water or the environment. Nor does approval of the permit relieve the owner/operator of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If you have any questions, please contact Carl Chavez of my staff at (505-476-3491) or E-mail [carlj.chavez@state.nm.us](mailto:carlj.chavez@state.nm.us). On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Wayne Price  
Environmental Bureau Chief

LWP/cc  
Attachments-1  
xc: OCD District Office

**ATTACHMENT TO THE DISCHARGE PERMIT  
Key Energy Services, Inc. Brine Well (BW-028)  
DISCHARGE PERMIT APPROVAL CONDITIONS**

March 7, 2008

Please remit a check for \$1700.00 made payable to Water Quality Management Fund:

**Water Quality Management Fund  
C/o: Oil Conservation Division  
1220 S. Saint Francis Drive  
Santa Fe, New Mexico 87505**

- 1. Payment of Discharge Plan Fees:** All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application will be assessed a filing fee of \$100.00, plus a renewal flat fee (*see* WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division ("OCD") has received the required \$100.00 filing fee. However, the owner/operator still owes the required \$1,700.00 permit fee for a Class III Brine Well.
- 2. Permit Expiration and Renewal:** Pursuant to WQCC Regulation 20.6.2.3109.H.4 NMAC, this permit is valid for a period of five years. **The permit will expire on July 18, 2011** and an application for renewal should be submitted no later than 120 days before that expiration date. Pursuant to WQCC Regulation 20.6.2.3106.F NMAC, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. *Expired permits are a violation of the Water Quality Act {Chapter 74, Article 6, NMSA1978} and civil penalties may be assessed accordingly.*
- 3. Permit Terms and Conditions:** Pursuant to WQCC Regulation 20.6.2.3104 NMAC, when a permit has been issued, the owner/operator must ensure that all discharges shall be consistent with the terms and conditions of the permit. In addition, all facilities shall abide by the applicable rules and regulations administered by the OCD pursuant to the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38.
- 4. Owner/Operator Commitments:** The owner/operator shall abide by all commitments submitted in its September 17, 2007 discharge permit application, including attachments and subsequent amendments and these conditions for approval. Permit applications that reference previously approved plans on file with the division shall be incorporated in this permit and the owner/operator shall abide by all previous commitments of such plans and these conditions for approval.
- 5. Modifications:** WQCC Regulation 20.6.2.3107.C, 20.6.2.3109 and 20.6.2.5101.I NMAC addresses possible future modifications of a permit. The owner/operator (discharger) shall notify



the OCD of any facility expansion, production increase or process modification that would result in any significant modification in the discharge of water contaminants. The Division Director may require a permit modification if any water quality standard specified at 20.6.2.3103 NMAC is being or will be exceeded, or if a toxic pollutant as defined in WQCC Regulation 20.6.2.7 NMAC is present in ground water at any place of withdrawal for present or reasonably foreseeable future use, or that the Water Quality Standards for Interstate and Intrastate streams as specified in 20.6.4 NMAC are being or may be violated in surface water in New Mexico.

**6. Waste Disposal and Storage:** The owner/operator shall dispose of all wastes at an OCD-approved facility. Only oil field RCRA-exempt wastes may be disposed of by injection in a Class II well. RCRA non-hazardous, non-exempt oil field wastes may be disposed of at an OCD-approved facility upon proper waste determination pursuant to 40 CFR Part 261. Any waste stream that is not listed in the discharge permit application must be approved by the OCD on a case-by-case basis.

**A. OCD Rule 712 Waste:** Pursuant to OCD Rule 712 (19.15.9.712 NMAC) disposal of certain non-domestic waste without notification to the OCD is allowed at NMED permitted solid waste facilities if the waste stream has been identified in the discharge permit and existing process knowledge of the waste stream does not change.

**B. Waste Storage:** The owner/operator shall store all waste in an impermeable bermed area, except waste generated during emergency response operations for up to 72 hours. All waste storage areas shall be identified in the discharge permit application. Any waste storage area not identified in the permit shall be approved on a case-by-case basis only. The owner/operator shall not store oil field waste on-site for more than 180 days unless approved by the OCD.

**7. Drum Storage:** The owner/operator must store all drums, including empty drums, containing materials other than fresh water on an impermeable pad with curbing. The owner/operator must store empty drums on their sides with the bungs in place and lined up on a horizontal plane. The owner/operator must store chemicals in other containers, such as tote tanks, sacks, or buckets on an impermeable pad with curbing.

**8. Process, Maintenance and Yard Areas:** The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases, leaks and spills have reached the ground surface.

**9. Above Ground Tanks:** The owner/operator shall ensure that all aboveground tanks have impermeable secondary containment (e.g., liners and berms), which will contain a volume of at least one-third greater than the total volume of the largest tank or all interconnected tanks. The owner/operator shall retrofit all existing tanks before discharge permit renewal. Tanks that contain fresh water or fluids that are gases at atmospheric temperature and pressure are exempt from this condition.

**10. Labeling:** The owner/operator shall clearly label all tanks, drums, and containers to identify their contents and other emergency notification information. The owner/operator may use a tank code numbering system, which is incorporated into their emergency response plans.

**11. Below-Grade Tanks/Sumps and Pits/Ponds.**

**A.** All below-grade tanks and sumps must be approved by the OCD prior to installation and must incorporate secondary containment with leak detection into the design. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal. All existing below-grade tanks and sumps without secondary containment and leak detection must be tested annually or as specified herein. Systems that have secondary containment with leak detection shall have a monthly inspection of the leak detection system to determine if the primary containment is leaking. Small sumps or depressions in secondary containment systems used to facilitate fluid removal are exempt from these requirements if fluids are removed within 72 hours.

**B.** All pits and ponds, including modifications and retrofits, shall be designed by a certified registered professional engineer and approved by the OCD prior to installation. In general, all pits or ponds shall have approved hydrologic and geologic reports, location, foundation, liners, and secondary containment with leak detection, monitoring and closure plans. All pits or ponds shall be designed, constructed and operated so as to contain liquids and solids in a manner that will protect fresh water, public health, safety and the environment for the foreseeable future. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal.

**C.** The owner/operator shall ensure that all exposed pits, including lined pits and open top tanks (8 feet in diameter or larger) shall be fenced, screened, netted, or otherwise rendered non-hazardous to wildlife, including migratory birds.

**D.** The owner/operator shall maintain the results of tests and inspections at the facility covered by this discharge permit and available for OCD inspection. The owner/operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 15 days. The owner/operator may propose various methods for testing such as pressure testing to 3 pounds per square inch greater than normal operating pressure and/or visual inspection of cleaned tanks and/or sumps, or other OCD-approved methods. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

**12. Underground Process/Wastewater Lines:**

**A.** The owner/operator shall test all underground process/wastewater pipelines at least once every five (5) years to demonstrate their mechanical integrity, except lines containing fresh water or fluids that are gases at atmospheric temperature and pressure. Pressure rated pipe shall be tested by pressuring up to one and one-half times the normal operating pressure, if possible, or for

atmospheric drain systems, to 3 pounds per square inch greater than normal operating pressure, and pressure held for a minimum of 30 minutes with no more than a 1% loss/gain in pressure. The owner/operator may use other methods for testing if approved by the OCD.

**B.** The owner/operator shall maintain underground process and wastewater pipeline schematic diagrams or plans showing all drains, vents, risers, valves, underground piping, pipe type, rating, size, and approximate location. All new underground piping must be approved by the OCD prior to installation. The owner/operator shall report any leaks or loss of integrity to the OCD within 15 days of discovery. The owner/operator shall maintain the results of all tests at the facility covered by this discharge permit and they shall be available for OCD inspection. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

**13. Class V Wells:** The owner/operator shall close all Class V wells (e.g., septic systems, leach fields, dry wells, etc.) that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes unless it can be demonstrated that ground water will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only, must be permitted by the New Mexico Environment Department (NMED).

**14. Housekeeping:** The owner/operator shall inspect all systems designed for spill collection/prevention and leak detection at least monthly to ensure proper operation and to prevent over topping or system failure. All spill collection and/or secondary containment devices shall be emptied of fluids within 72 hours of discovery. The owner/operator shall maintain all records at the facility and available for OCD inspection.

**15. Spill Reporting:** The owner/operator shall report all unauthorized discharges, spills, leaks and releases and conduct corrective action pursuant to WQCC Regulation 20.5.12.1203 NMAC and OCD Rule 116 (19.15.3.116 NMAC). The owner/operator shall notify both the OCD District Office and the Santa Fe Office within 24 hours and file a written report within 15 days.

**16. OCD Inspections:** The OCD may place additional requirements on the facility and modify the permit conditions based on OCD inspections.

**17. Storm Water:** The owner/operator shall implement and maintain run-on and runoff plans and controls. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) including any oil sheen in any storm water run-off. The owner/operator shall notify the OCD within 24 hours of discovery of any releases and shall take immediate corrective action(s) to stop the discharge.

**18. Unauthorized Discharges:** The owner/operator shall not allow or cause water pollution, discharge or release of any water contaminant that exceeds the WQCC standards listed in

20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) unless specifically listed in the permit application and approved herein. **An unauthorized discharge is a violation of this permit.**

**19. Vadose Zone and Water Pollution:** The owner/operator shall address any contamination through the discharge permit process or pursuant to WQCC 20.6.2.4000-.4116 NMAC (Prevention and Abatement of Water Pollution). The OCD may require the owner/operator to modify its permit for investigation, remediation, abatement, and monitoring requirements for any vadose zone or water pollution. Failure to perform any required investigation, remediation, abatement and submit subsequent reports will be a violation of the permit.

**20. Additional Site Specific Conditions:** N/A

**21. Brine Well(s) Identification, Operation, Monitoring, Bonding and Reporting.**

**A. Well Identification:** API # 30-025-33547

**B. Well Work Over Operations:** OCD approval will be obtained prior to performing remedial work, pressure test or any other work. Approval will be requested on OCD Form C-103 "Sundry Notices and Reports on Wells" (OCD Rule 1103.A.) with appropriate copies sent to the OCD Environmental Bureau and District Office.

**C. Production Method:** Fresh water will be injected down the casing and brine shall be recovered up the tubing. Reverse flow will be allowed only once a month for up to 24 hours for clean out. Operators may request long term reverse operation if they can demonstrate that additional casing and monitoring systems are installed and approved by OCD. Operating in the reverse mode for more than 24 hours unless approved otherwise is a violation of this permit.

**D. Well Pressure Limits:** **The maximum operating surface injection and/or test pressure measured at the wellhead shall not exceed 405 psig unless otherwise approved by the OCD.** The operator shall have a working pressure limiting device or controls to prevent overpressure. Any pressure that causes new fractures or propagate existing fractures or causes damage to the system shall be reported to OCD within 24 hours of discovery.

**E. Mechanical Integrity Testing:** Conduct an annual open to formation pressure test by pressuring up the formation with approved fluids or gas to a minimum of 300 psig measured on the surface casing for four hours. However, no operator may exceed test pressures that may cause formation fracturing (see item 21.D above) or system failures. Systems requiring test pressures less than 300 psig must be approved by OCD prior to testing. At least once every five years and during well work-overs the salt cavern formation will be isolated from the casing/tubing annulus and the casing



pressure tested at 300 psig for 30 minutes. All pressure tests must be performed per the scheduled shown below and witnessed by OCD unless otherwise approved.

**Testing Schedule:**

2007- 4 hour @ 300 psig casing open to formation test  
2008- 30 minute @ 300 psig casing test only (set packer to isolate formation)  
2009- 4 hour @ 300 psig casing open to formation test  
2010- 4 hour @ 300 psig casing open to formation test  
2011- 4 hour @ 300 psig casing open to formation test

- F. Capacity/ Cavity Configuration and Subsidence Survey: The operator shall provide information on the size and extent of the solution cavern and geologic/engineering data demonstrating that continued brine extraction will not cause surface subsidence, collapse or damage to property, or become a threat to public health and the environment. This information shall be supplied in each annual report. OCD may require the operator to perform additional well surveys, test, and install subsidence monitoring in order to demonstrate the integrity of the system. If the operator cannot demonstrate the integrity of the system to the satisfaction of the Division then the operator may be required to shut-down, close the site and properly plug and abandoned the well.

**Any subsidence must be reported within 24 hours of discovery.**

- G. Production/Injection Volumes: The volumes of fluids injected (fresh water) and produced (brine) will be recorded monthly and submitted to the OCD Santa Fe Office in the annual report.
- H. Analysis of Injection Fluid and Brine: Provide an analysis of the injection fluid and brine with each annual report. Analysis will be for General Chemistry (method 40 CFR 136.3) using EPA methods.
- I. Area of Review (AOR): The operator shall report within 24 hours of discovery of any new wells, conduits, or any other device that penetrates or may penetrate the injection zone within ¼ mile from the brine well.
- J. Loss of Mechanical Integrity: The operator shall report within 24 hours of discovery of any failure of the casing, tubing or packer, or movement of fluids outside of the injection zone. The operator shall cease operations until proper repairs are made and the operator receives OCD approval to re-start injection operations.
- K. Bonding or Financial Assurance: The operator shall maintain at a minimum, a one well plugging bond in the amount of \$50,000.00 to restore the site, plug and abandon

the well by January 1, 2008, pursuant to OCD rules and regulations. If warranted, OCD may require additional financial assurance.

**L. Annual Report:** All operators shall submit an annual report due on January 31 of each year. The report shall include the following information:

1. Cover sheet marked as "Annual Brine Well Report, name of operator, BW permit #, API# of well(s), date of report, and person submitting report.
2. Brief summary of brine wells operations including description and reason for any remedial or major work on the well. Copy of C-103.
3. Production volumes as required above in 21.G. including a running total should be carried over to each year. The maximum and average injection pressure.
4. A copy of the chemical analysis as required above in 21.H.
5. A copy of any mechanical integrity test chart, including the type of test, i.e. open to formation or casing test.
6. Brief explanation describing deviations from normal production methods.
7. A copy of any leaks and spills reports.
8. If applicable, results of any groundwater monitoring.
9. Information required from cavity/subsidence 21.F. above.
10. An Area of Review (AOR) summary.
11. Sign-off requirements pursuant to WQCC Subsection G 20.6.2.5101.

**22. Transfer of Discharge Permit:** Pursuant to WQCC 20.6.2.5101.H the owner/operator and new owner/operator shall provide written notice of any transfer of the permit. Both parties shall sign the notice 30 days prior to any transfer of ownership, control or possession of a facility with an approved discharge permit. In addition, the purchaser shall include a written commitment to comply with the terms and conditions of the previously approved discharge permit. OCD will not transfer brine well operations until proper bonding or financial assurance is in place and approved by the division. OCD reserves the right to require a modification of the permit during transfer.

**23. Closure:** The owner/operator shall notify the OCD when operations of the facility are to be discontinued for a period in excess of six months. Prior to closure of the facility, the operator shall submit for OCD approval, a closure plan including a completed C-103 form for plugging and abandonment of the well(s). Closure and waste disposal shall be in accordance with the statutes, rules and regulations in effect at the time of closure.

**24. Certification: Sanchez Corporation (Owner/Operator),** by the officer whose signature appears below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained here. **Owner/Operator** further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, safety, and the environment, change the conditions and requirements of this permit administratively.

Mr. Louis Sanchez  
State Well No. 1 (BW-028)  
March 7, 2008  
Page 9 of 9

Conditions accepted by: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

\_\_\_\_\_  
Company Name-print name above

\_\_\_\_\_  
Company Representative- print name

\_\_\_\_\_  
Company Representative- signature

Title \_\_\_\_\_

Date: \_\_\_\_\_


**Chavez, Carl J, EMNRD**

---

**From:** Sanchez, Jr., Louis [lsanchez@keyenergy.com]  
**Sent:** Tuesday, March 11, 2008 8:03 AM  
**To:** Chavez, Carl J, EMNRD  
**Subject:** BW-28 - State S Brine Facility Discharge Permit Proof of Public Notice  
**Attachments:** Ad and Affidavit.pdf

Carl-

Attached is the ad and affidavit for the proof of public notice for the BW-28 Discharge Plan Renewal. Please let me know if you need anything further to complete the renewal process. Thanks Carl.

 **Louis Sanchez | Key Energy Services, Inc.**  
| Corporate Environmental Specialist II  
| 6 Desta Drive, ste. 4400, Midland, TX 79705  
| o: 432.571.7382 | c: 432.230.7926 | e:lsanchez@keyenergy.com

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This inbound email has been scanned by the MessageLabs Email Security System.

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3/12/2008



AFFIDAVIT OF PUBLICATION

State of New Mexico,  
County of Lea.

I, KATHI BEARDEN

PUBLISHER

of the Hobbs News-Sun, a news-  
paper published at Hobbs, New  
Mexico, do solemnly swear that  
the clipping attached hereto was  
published in the regular and  
entire issue of said paper, and not  
a supplement thereof for a period

of 1 issue(s).

Beginning with the issue dated

FEBRUARY 15, 2008

and ending with the issue dated

FEBRUARY 15, 2008

Kathi Bearden  
PUBLISHER

Sworn and subscribed to before

me this 5TH day of  
MARCH, 2008

Una Montz  
Notary Public.

My Commission expires

February 07, 2009

(Seal)



OFFICIAL SEAL  
DORA MONTZ  
NOTARY PUBLIC  
STATE OF NEW MEXICO

My Commission Expires: \_\_\_\_\_

**PUBLIC NOTICE**

Key Energy Services, Inc., 6 Deste Drive, Suite 4400, Midland, Texas, 79705, has submitted a renewal application to the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division (OCD) for the previously approved discharge plan (BW-028) for their Brine & Water Station located in the NW 7, NW 7 of Section 15, Township 21 South, Range 37 East in Lea County, New Mexico. The facility is located approximately 2.5 miles of Eunice on North Loop 18 (County Road 207), Eunice, New Mexico.

The facility currently stores approximately 2,000 barrels of 10 pound brine water in four fiberglass storage tanks, 1,500 barrels of freshwater in three bolted steel storage tanks, and 500 barrels of brine wastewater and rainwater from the loading pad drains in two fiberglass storage tanks. The freshwater is obtained from the City of Eunice, and the brine water is obtained from the brine water extraction well located at the facility site. Approximately 500 to 750 barrels of brine water are produced on a daily basis. Groundwater is protected from brine water seepage by an impervious liner within the brine water storage tank area. The site is equipped with an alarm system that detects overflow of the brine water storage tanks. The transfer point is contained over a curbed, concrete area, which has a drain and a sump to catch all runoff. The site is equipped with an alarm system that detects overflow of the sump catch tank.

Approximately two times per year, the brine wastewater and rain water from the catch tanks are hauled off-site by Key Energy and shipped to an OCD approved facility for ultimate disposal. The volume of discharges is zero and therefore, the quality of the discharges is not applicable. The aquifer most likely to be affected is 50 to 70 feet below ground surface, and the total dissolved solids concentration of this aquifer is approximately 1,200 mg/L.

Any interested person or persons may obtain information, submit comments, or request to be placed on a facility-specific mailing list for future notices by contacting Leonard Lowe at the New Mexico OCD at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. Telephone (505) 476-3492. The OCD will accept comments and statements of interest regarding the renewal and will create a facility-specific mailing list for persons who wish to receive future notices.

This newspaper is duly qualified to  
publish legal notices or advertise-  
ments within the meaning of  
Section 3, Chapter 167, Laws of  
1937, and payment of fees for said  
publication has been made.

49100784-000 49685526  
SOUDER, MILLER, & ASSOCIATES  
1201 PARKWAY DRIVE  
SANTA FE, NM 87507

AFFIDAVIT OF PUBLICATION

State of New Mexico,  
County of Lea.

I, KATHI BEARDEN

PUBLISHER

of the Hobbs News-Sun, a news-  
paper published at Hobbs, New  
Mexico, do solemnly swear that  
the clipping attached hereto was  
published in the regular and  
entire issue of said paper, and not  
a supplement thereof for a period

of 1 issue(s).

Beginning with the issue dated

FEBRUARY 15, 2008

and ending with the issue dated

FEBRUARY 15, 2008

Kathi Bearden  
PUBLISHER

Sworn and subscribed to before  
me this 5TH day of

MARCH, 2008

[Signature]  
Notary Public.

My Commission expires  
February 07, 2009  
(Seal)



OFFICIAL SEAL  
DORA MONTZ  
NOTARY PUBLIC  
STATE OF NEW MEXICO

My Commission Expires: \_\_\_\_\_

This newspaper is duly qualified to  
publish legal notices or advertise-  
ments within the meaning of  
Section 3, Chapter 167, Laws of  
1937, and payment of fees for said  
publication has been made.

**NOTIFICACION PUBLICA**

Key Energy Services, Inc., 6 Doss Drive, Suite 4400, Midland, Texas, 79705, ha presentado una petición de renovación al New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division (OCD) (Departamento de Energía, Minerales y Recursos Naturales del Estado de Nuevo México, Departamento de Conservación de Petróleo (OCD)) para el previamente aprobado plan de descarga (BW-028) para su Brine and Water Station (Estación de Salmuera y Agua) ubicado en el NW 2, NW 2 de Sección 15, Township 31 Sur, Range 37 Este en el Condado Lea, Nuevo México. La planta está ubicada aproximadamente 2.5 millas de Eunice en North Loop 18 (County Road 207), Eunice, Nuevo México.

Actualmente se almacenan dentro de la planta aproximadamente 2,000 barriles de salmuera de 10 libras en cuatro tanques de fibra de vidrio, 1,300 barriles de agua dulce en tres tanques de acero construidos con pernos, y 500 barriles de salmuera de deságüe y agua de lluvia juntado del sistema de drenaje de la zona de carga en los tanques de fibra de vidrio. El agua dulce se obtiene de la Ciudad de Eunice, y la salmuera se obtiene del pozo de extracción asociado con la planta. Aproximadamente 500 a 750 barriles de salmuera se producen diariamente. Agua del subsuelo está protegida de la salmuera por medio de un forro impermeable dentro del área de los tanques de salmuera. El sitio está equipado con un sistema de alarmas que detecta desbordamiento de los tanques de salmuera. El lugar de transferencia se contiene sobre concreto que tiene sistema de drenaje y sumidero para atrapar los líquidos. El sitio está equipado con sistema de alarma para detectar desbordamiento del tanque que recibe los líquidos del sumidero.

Aproximadamente dos veces al año, el deságüe de salmuera y agua de lluvia del tanque se lleva fuera del sitio por Key Energy y enviado a una planta aprobado por el OCD para eliminación permanente. El volumen de descargas es cero, entonces la calidad de las descargas no se aplica. El acuífero más vulnerable se encuentra entre 50 y 70 pies debajo de la superficie, y la concentración total de sólidos disueltos de este acuífero es aproximadamente 1,200 mg/l.

Cualquiera persona o personas interesadas en obtener más información puede presentar comentarios o pedidos de ser incluidos en una lista de correos para notificaciones futuras al Señor Leonard Lewis del OCD del estado de Nuevo México a 1770 South St. Francis Drive, Santa Fe, New Mexico 87505, Teléfono (505) 476-3492. El OCD aceptará comentarios y declaraciones de interés sobre la renovación del permiso y creará una lista de correos para las personas quienes desean recibir notificaciones futuras que tienen que ver con el presente asunto.

49100784-000 49685528  
SOUDER, MILLER, & ASSOCIATES  
1201 PARKWAY DRIVE  
SANTA FE, NM 87507

# Advertising Receipt

Hobbs Daily News-Sun

201 N Thorp  
P O Box 936  
Hobbs, NM 88241-0850  
Phone: (575) 393-2123  
Fax: (575) 397-0610

LEONARD LOWE  
NM OIL CONSERVATION DIVISION, EMNRD  
1220 S. SAINT FRANCIS DR.  
SANTA FE, NM 87505

Cust#: 01101546-000  
Ad#: 02598175  
Phone: (505)476-3492  
Date: 01/31/08

Ad taker: C2 Salesperson: 08 Classification: 673

Description	Start	Stop	Ins.	Cost/Day	Surcharges	Total
07 07 Daily News-Sun	02/05/08	02/05/08	1	223.44		223.44
Bold						1.00
Affidavit for legals						3.00

**Payment Reference:**

LEGAL NOTICE  
February 5, 2008

**NOTICE OF PUBLICATION**

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

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3106 NMAC), the following discharge permit application(s) has been submitted to the Director of the New Mexico Oil Conservation Division ("NMOCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(BW-028) Key Energy Services, Inc., Mr. Louis Sanchez, 6 Desta Drive, Suite 4400, Midland, Texas 79705 has submitted an application for the renewal of a discharge permit for the brine well

Total: □ 227.44  
Tax: 0.00  
Net: 227.44  
Prepaid: 0.00

**Total Due 227.44**

2008 FEB 8 PM 1 08

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supplement thereof for a period.

of 1

\_\_\_\_\_ weeks.

Beginning with the issue dated

February 5 2008

and ending with the issue dated

February 5 2008

Kathi Beard

PUBLISHER

Sworn and subscribed to before

me this 5th day of

February 2008

## LEGAL NOTICE

February 5, 2008

## NOTICE OF PUBLICATION

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

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3106 NMAC), the following discharge permit application(s) has been submitted to the Director of the New Mexico Oil Conservation Division ("NMOCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(BW-028) Key Energy Services, Inc., Mr. Louis Sanchez, 6 Desta Drive, Suite 4400, Midland, Texas 79705 has submitted an application for the renewal of a discharge permit for the brine well "State Well No. 001" (API# 30-025-33547) located in the SW/4, NW/4 of Section 15, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico. The brine extraction well is located approximately 2.5 miles north of Eunice, New Mexico on Hwy. 18, east on CR-207 0.1 miles into the facility. Fresh water is injected into the Salado Formation at a depth of 1,350 feet and 450 barrels per day of brine water is extracted through a 2,200 foot fiberglass tubing with total dissolved solids (TDS) concentration of approximately 300,000 mg/L for use in the oil industry. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of approximately 70 feet with a TDS of approximately 1,100 mg/L. The discharge permit addresses well construction, operation, monitoring of the well, associated surface facilities, and provides a contingency plan in the event of accidental spills, leaks and other accidental discharges in order to protect fresh water.

(BW-030) Liquid Resource Services, LLC., Mr. David Pyeatt, 1819 N. Turner, Suite B, Hobbs, New Mexico 88240, has submitted an application for the renewal of a discharge permit for the brine well "Hobbs State No. 010" (API# 30-025-35915) located in the SE/4, NW/4 of Section 29, Township 18 South, Range 38 East, NMPM, Lea County, New Mexico. The brine extraction well is located approximately 1.4 miles west of the North Lovington Hwy. on West Bender Boulevard, turn south and head straight and onto dirt road for 0.5 mile on Northwest County Road, and turn right into the facility in Hobbs, New Mexico. Fresh water is injected into the Salado Formation at a depth of 1,700 feet and 580 barrels per day of brine water is extracted with a total dissolved solids (TDS) concentration of approximately 300,000 mg/L for use in the oil industry. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of approximately 50 feet with a TDS of approximately 800 mg/L. The discharge permit addresses well construction, operation, monitoring of the well, associated surface facilities, and provides a contingency plan in the event of accidental spills, leaks and other accidental discharges in order to protect fresh water.

(GW-010) Southern Union Gas Services, Ltd., Bruce Williams, Vice-President, Operations, Southern Union Gas Services, Ltd., 301 Commerce Street, Suite 700, Fort Worth, Texas 76102, has submitted a renewal application for the previously approved discharge permit, Jal #3 Natural Gas Processing Plant, located in the SW/4 NW/4 of Section 33, Township 24 South, Range 37 East, NMPM, Lea County, New Mexico, approximately 3.5 miles north of Jal, New Mexico and one mile east of Hwy. #18. Current operations at the facility are: compression, sweetening and sulfur recovery, dehydration, cryogenic extraction of ethane and heavier hydrocarbons, steam generation, and Class II well disposal. The plant is designed to have no intentional liquid discharges and disposes of wastewater and acid gas in a permitted Class II Woolworth Estate disposal well (API# 30-025-27081), which will be replaced by a similar well about 200 ft. east of the existing well. The new disposal well will inject in addition to past waste disposal, acid gas (H<sub>2</sub>S) into the San Andres Formation (4,350 - 5,200 ft.). A hydrogen sulfide contingency plan has been incorporated into the discharge permit. Groundwater most likely to be affected by a spill, leak or accidental discharge is at a depth of approximately 90 feet, with a total dissolved solids concentration of approximately 2,200 mg/L. The discharge permit addresses remediation of soil and ground water, and how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

(GW-319) Robert Strasner of R&R Service Company Inc., P.O. Box 1409, Hobbs, N.M. 88241-1409, has submitted a renewal application for the previously approved discharge plan for their Oil and Gas Service company, located in the NE/4 SW/4 of Section 33, Township 18 South, Range 38 East, NMPM, Lea County, New Mexico, 1500 Broadway Place, Hobbs N.M. The facility provides sandblasting and painting of oilfield equipment. Approximately fifty 100 lb sacks of sandblasting sand and small quantities of paint are stored onsite. Groundwater most likely to be affected by a spill, leak or accidental discharge is at a depth of approximately 60 feet, with a total dissolved solids concentration of approximately 500 mg/L. The discharge plan addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

(GW-362) Mr. Clifford Stewart of Riverside Transportation Inc., P.O. Box 1898, Carlsbad N.M. 88221-1898 has submitted an application for a new discharge plan for their Oil and Gas Service Company located in Section 20, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico, approximately 1 mile East of Jal, New Mexico. Typical materials generated or used at the facility include bagged potassium chloride, new and used lube oil and other chemicals provided to the oil and gas industry. Approximately 600 gallons of used lube oil, which is sold to a recycling facility, 400 bags of 50lb KCL, 100 gallons of liquid KCL and 500 barrels of truck wash are generated at the facility and will be stored onsite in a closed top steel tank within a bermed area prior to disposal at an NMOCD approved facility. Groundwater most likely to be affected by a spill, leak or accidental discharge is at a depth of approximately 68 feet, with a total dissolved solids concentration of approximately 855 mg/L. The discharge plan addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

The NMOCD has determined that the application is administratively complete and has prepared a draft permit. The NMOCD will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to

receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices, may contact the Environmental Bureau Chief of the Oil Conservation Division at the address given above. The administrative completeness determination and draft permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, or may also be viewed at the NMOCD web site <http://www.emnrd.state.nm.us/ocd/>. Persons interested in obtaining a copy of the application and draft permit may contact the NMOCD at the address given above. Prior to ruling on any proposed discharge permit or major modification, the Director shall allow a period of at least thirty (30) days after the date of publication of this notice, during which interested persons may submit comments or request that NMOCD hold a public hearing. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines that there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available, including all comments received. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit application and information submitted at the hearing.

Para obtener más información sobre esta solicitud en español, sírvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energía, Minerales y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservación Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Dorothy Phillips, 505-476-3461)

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 30th day of January, 2008.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

Mark Fesmire, Director

SEAL

#23817





# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

January 31, 2008

Mr. Louis Sanchez  
Key Energy Services, Inc.  
6 Desta Drive, Suite 4400  
Midland, Texas 79705

**Re: Discharge Plan Renewal of Permit (BW-028)**  
**Key Energy Services, Inc.**  
**Class III Brine Well**  
**State Well No. 001, API No. 30-025-33547**  
**1,340 FNL and 330 FWL UL: E Section 15, T 21 S, R 37 E**  
**Lea County, New Mexico**

Dear Mr. Sanchez:

The New Mexico Oil Conservation Division (NMOCD) has received Key Energy Services, Inc.'s renewal application for the "State Well No. 001" brine well to inject fresh water and extract 10 pound brine water from the Salado Formation at a daily rate of 450 barrels per day and at a maximum injection pressure of 405 psig. The Class III brine well is located approximately 2.5 miles north of Eunice, New Mexico on Hwy. 18, east on CR-207 0.1 miles into the facility. The initial and subsequent submittals provided the required information in order to deem the renewal application "administratively" complete.

Therefore, the New Mexico Water Quality Control Commission regulations (WQCC) notice requirements of 20.6.2.3108 NMAC must be satisfied and demonstrated to the NMOCD. NMOCD will provide public notice pursuant to the WQCC notice requirements of 20.6.2.3108 NMAC to determine if there is any public interest.

Please contact me at (505) 476-3491 or [carlj.chavez@state.nm.us](mailto:carlj.chavez@state.nm.us) if you have questions. Thank you for your cooperation during this discharge permit review.

Sincerely,

Carl J. Chavez  
Environmental Engineer

CJC/cjc

xc: OCD District Office

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

Revised June 10, 2003

Submit Original  
Plus 1 Copy  
to Santa Fe  
1 Copy to Appropriate  
District Office

## DISCHARGE PLAN APPLICATION FOR BRINE EXTRACTION FACILITIES

(Refer to the OCD Guidelines for assistance in completing the application)

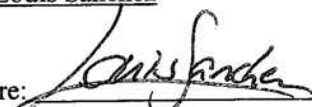
☐ New ☒ Renewal

- I. Facility Name: Key Energy Services, Inc. Brine & Water Station (BW-028)
- II. Operator: Yale E. Key Inc. dba Key Energy Services Inc.  
Address: 6 Desta Drive, Suite 4400, Midland, TX 79705  
Contact Person: Mr. Louis Sanchez Phone: 432-571-7382
- III. Location: NW /4 NW /4 Section 15 Township 21S Range 37E  
Submit large scale topographic map showing exact location.
- IV. Attach the name and address of the landowner of the facility site.
- V. Attach a description of the types and quantities of fluids at the facility.
- VI. Attach a description of all fluid transfer and storage and fluid and solid disposal facilities.
- VII. Attach a description of underground facilities (i.e. brine extraction well).
- VIII. Attach a contingency plan for reporting and clean-up of spills or releases.
- IX. Attach geological/hydrological evidence demonstrating that brine extraction operations will not adversely impact fresh water.
- X. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
- XI. CERTIFICATION:

*I hereby certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.*

Name: Louis Sanchez

Title: Corporate Env. Specialist

Signature: 

Date: 9/13/07

E-mail Address: lsanchez@keyenergy.com

**Attachments for Discharge Plan Application**

Key Energy Services, Inc., Brine & Water Station (BW-028)  
2.5 Miles North of Eunice on North Loop 18 (County Road 207)  
Near Eunice, NM

I. Name of Facility

Key Energy Services, Inc. Brine & Water Station (BW-028)

II. Name of Operator or Legally Responsible Party and Local Representative

Yale E. Key Inc. dba Key Energy Services Inc.  
6 Desta Drive, Suite 4400  
Midland, TX 79705

Local Manager:  
Mr. Sam Blevins  
(505) 394-2581

III. Location of Facility

The site is located approximately 2.5 miles of Eunice on North Loop 18 (County Road 207) within the northwest quarter of the northwest quarter of Section 15 in Township 21 South, Range 37 East in Lea County, New Mexico. Figure 1 shows the approximate location of the facility on the U.S.G.S. topographic map of Eunice New Mexico (1969; photorevised 1979).

IV. Landowner of the Facility Site

The facility is leased from:

Millard Deck Trust  
Attn: Mr. Tim Wolters  
P.O. Box 270  
Midland, TX, 79702

V. Description of Types and Quantities of Fluids Stored or Used at the Facility

The facility currently stores approximately 2,000 barrels of 10 pound brine water, 1,500 barrels of freshwater, and 500 barrels of brine wastewater and rainwater from the loading pad drains. The brine water is stored in fiberglass storage tanks of 500 barrel capacity each, and the freshwater is stored in bolted steel storage tanks of 500 barrel capacity each, resulting in a brine water storage capacity of 2,000 barrels and a freshwater storage capacity of 1,500 barrels. The brine wastewater and rainwater is stored in fiberglass storage tanks of 250 barrel capacity each, resulting in a wastewater storage capacity of





500 barrels. The freshwater is obtained from the City of Eunice, and the brine water is obtained from the brine water extraction well located at the facility site. Approximately 500 to 750 barrels of brine water are produced on a daily basis. The storage locations of these fluids are depicted in Figure 2.

## VI. Description of Fluid Transfer and Storage

A. There are four (4) brine water storage tanks of 500 barrel capacity each, three (3) freshwater storage tanks of 500 barrel capacity each, and two (2) tank pad drain storage tanks of 250 barrel capacity each located aboveground at the site. The brine water storage tanks are manifolded together, and the freshwater storage tanks are manifolded together. The freshwater is provided by the City of Eunice and runs through an underground, 4-inch diameter steel pipe. The freshwater line that connects to the storage tanks is aboveground, 3-inch diameter poly-pipe. The manifold pipes are aboveground, 4-inch diameter steel pipes, while the pipes that lead to and from the pump house are aboveground, 4-inch diameter poly-pipe. The pipes that lead to and from the brine extraction well are aboveground, 2 ½-inch diameter plastic coated pipes. The pipes from the pumps to the load rack are aboveground, 4-inch diameter poly-pipes. The pipeline was installed approximately four (4) years ago. The water circulates through the pipelines with low level pressure (less than 100 pounds per square inch). Appendix A contains the fluid flow schematic for the facility.

1. Tank and Chemical Storage Area (constructed before 2002): The five (5) 500 barrel capacity brine water storage tanks are interconnected creating a combined volume of 2,500 barrels of brine storage capacity. The brine water storage tanks and the pad drain storage tanks are surrounded by a secondary containment berm, lined with an impervious engineered layer, that is approximately 100 feet by 50 feet and approximately three (3) feet in height. Based on these approximations, the bermed area can contain approximately 3,500 barrels of fluid.
2. Surface Impoundments (constructed in 2003): There are two (2) curbed, concrete loading areas that contain a drain and a small sump to catch runoff from brine loading and unloading activities. The loading areas slope toward the metal drains, which flow to the sump.
3. Leach Fields: No leach fields are present at this facility.
4. Solids Disposal: There are no solids/sludges that accumulate at the facility.

B. For each of the transfer/storage/disposal methods listed above:

1. Tank and Chemical Storage Area:
  - i. Groundwater is protected from brine water seepage by an impervious liner within the brine water storage tank area.



- ii. The location and design of the site and the methods available for sampling and for measurement/calculation of flow are on file with the NMOCD in Santa Fe.
- iii. The site is equipped with an alarm system that detects overflow of the brine water storage tanks.

2. Surface Impoundments:

- i. The transfer points are contained over curbed, concrete areas, which have a drain and a sump to catch all runoff.
- ii. The location and design of the site and the methods available for sampling and for measurement/calculation of flow are on file with the NMOCD in Santa Fe.
- iii. The site is equipped with an alarm system that detects overflow of the sump catch tank.

3. Leach Fields: No leach fields are present at this facility.

4. Solids Disposal: There are no solids/sludges that accumulate at the facility.

C. Off-Site Disposal

Brine wastewater and rainwater collected in the drains of the loading pads are stored in two (2) sump catch tanks of 250 barrel capacity each. Approximately two (2) times per year, the brine wastewater and rain water from the tank are hauled by Key Energy Services to their Christmas Disposal facility approximately 3.5 miles south of Eunice for ultimate disposal. Key Energy is a licensed waste hauler.

D. Proposed Modifications

No modifications to the facility are proposed at this time.

E. Underground Piping

The only underground piping present at the facility are the 4-inch diameter, steel pipes that connect to the City of Eunice water line. The water circulates through the pipelines with low level pressure (less than 100 pounds per square inch).

F. Inspection, Maintenance and Reporting

- 1. The facility is inspected on a daily basis by drivers and supervisors. Quarterly inspections are performed by a supervisor and documented deficiencies/violations are kept on file. A copy of the most recent quarterly inspection is provided as Appendix B. Spills and releases at the facility will be reported to the OCD, as required.



2. Groundwater monitoring wells are not present at the facility, therefore, no inspection or maintenance of monitoring wells is required.
3. Please refer to Key Energy Services' SPCC and SWPP plans, which discuss general procedures for containment of precipitation and runoff, and includes information on curbing, drainage, disposition, notification, etc.
4. The tanks and piping located at the facility are inspected by Key Energy employees on a routine basis. Underground lines are pressure tested annually. The site is also equipped with an alarm system that detects overflow of the tanks. For details on procedures to be undertaken if significant leaks are detected, please refer to Key Energy's Emergency Contingency Plan, provided as Appendix C.
5. General Closure Plan:
  - i. All fluids will be removed and transported to an appropriate OCD-approved facility. Equipment will be dismantled and removed from the site. Confirmation samples will be collected beneath the former brine water storage tanks and beneath any subsurface features (drains and sumps).
  - ii. The facility will be graded to as close to the original contour as is practical, including removing secondary containment berms.
  - iii. Fluids, sludges and solids will be properly disposed pursuant to rules and regulations in effect at the time of closure.

## VII. Brine Extraction Well

There is one brine water extraction well (State S #1) associated with the facility. The total depth of the well is 2,200 feet below ground surface. The well consists of 1,360 feet of 8 <sup>5</sup>/<sub>8</sub> inch diameter casing and has open hole completion. There is 2,074 feet of 2 <sup>7</sup>/<sub>8</sub> inch diameter metal pipe that goes through the casing. Freshwater from the City of Eunice is pumped through the casing and circulates through an underground salt cavern. The water then circulates back up the well piping for collection.

### A. Drilling, Deepening, or Plug Back Operations

No modifications to the brine extraction well are anticipated at this time. However, should modifications to the brine extraction well become necessary in the future, Key Energy Services will file the following plans, specifications, and pertinent documents with the OCD 90 days prior to start-up of the planned operation:



1. Form C-101 "Application for Permit to Drill, Deepen, or Plug Back" (OCD Rule 1101).
2. A map showing the number, name, and location of all producing oil and gas wells, injection wells, abandoned holes, surface bodies of water, watercourses, springs, mines, quarries, water wells, and other pertinent surface features within ¼ mile from the wellbore(s).
3. Maps and cross-sections indicating the general vertical and lateral limits of all groundwater having 10,000 mg/L or less total dissolved solids (TDS) within one mile of the site. The maps will show the position of such groundwater within this area relative to the injection formation, and will indicate the direction of water movement, where known, for each zone of groundwater.
4. A list all abandoned wells/shafts or other conduits in the area of review that penetrate the injection zone, identifying those which may provide a pathway for migration of contaminant through being improperly sealed, completed or abandoned. Details regarding what correction action will be taken prior to start up of operations to prevent any movement of contaminants into groundwater of less than/equal to 10,000 mg/L TDS through such conduits due to the proposed injection activity (e.g. plugging open holes) will be provided. Completion and plugging records will also be included.

If information becomes available after operations have begun, which indicates the presence of a conduit that will require plugging, then the injection pressure will be limited to avoid movement of contaminants through such a conduit into protected groundwater.

5. Maps and cross-sections detailing the geology and geologic structure of the local area.
6. A proposed formation testing program to obtain an analysis or description of fluids in the receiving formation.
7. Schematic drawings of the surface and subsurface construction details.
8. Proposed drilling, evaluation, and testing programs, including logging procedures, coring program, and deviation checks.
9. Proposed stimulation, injection, and operation procedures with respect to WQCC 5-206 limitations.
10. Submittal of a plan for plugging and abandonment of the well that meets the requirements of WQCC regulations section 5-209. **A plugging bond pursuant to OCD Rule 101, as required, will be submitted prior to commencement of any new well drilling operations.**



B. Workover Operations

Before performing remedial work, altering or pulling casing, plugging or abandonment, or any other workover, approval of OCD will be obtained by Key Energy. Approval will be requested on OCD Form C-103 "Sundry Notices and Reports on Wells" (OCD Rule 1103-A).

C. Additional Information Required with Discharge Plan

The following information is on file with the NMOCD in Santa Fe, New Mexico and is available online at the OCD website:

- Evaluation, completion and well workover information
- The proposed maximum and average injection pressures and injection volume
- A proposed mechanical integrity testing program
- An analysis of the injection fluid and brine
- A comparison of volumes of freshwater injected to the volume of brine to detect underground losses
- Submittal of a quarterly report listing, by month, the volume of fluids injected and produced
- Information on the size and extent of the solution cavern
- Geologic/engineering data demonstrating that continued brine extraction will not cause surface subsidence or catastrophic collapse

VIII. Spill/Leak Prevention and Reporting Procedures (Contingency Plans)

Key Energy's Emergency Contingency Plan is provided as Appendix C.

IX. Site Characteristics

A. As required by OCD Guidelines, the following hydrologic/geologic information is provided:

1. According to the U.S.G.S. topographic map of Eunice, New Mexico (1969; photorevised in 1979), there is an arroyo approximately 500 feet to the north of the facility and an aqueduct approximately 3,700 feet to the north of the facility; no groundwater discharge sites (seeps, springs, marches, swamps) were located within one mile of the outside perimeter of the facility.

According to the New Mexico Office of the State Engineer's WATERS Database, there is one (1) water well (livestock watering well) within one-quarter mile of the facility.

2. According to the New Mexico Office of the State Engineer's WATERS Database, groundwater is encountered at a depth of between 50 to 70 feet below ground surface (bgs). According to the previous discharge plan, the



total dissolved solids content of the groundwater is approximately 1,200 mg/L.

3. Available information and reference sources for geology and geohydrology of the facility site is provided below:

- a. According to the Natural Resources Conservation Service Web Soil Survey, the facility is located on the Simona-Upton association. A summary of this soil type is provided as Appendix D.
- b. According to United States Geological Survey (USGS) publications, groundwater in the area occurs in the Ogallala Formation (a.k.a. the High Plain Aquifer) and can be up to approximately 350 feet thick.
- c. According to USGS publications, the Ogallala Formation is generally comprised of unconsolidated sand, silt, clay, and gravel. Sediments near the top of the formation are commonly cemented by calcium carbonate to form a caliche cap. Cementation is reported to generally decrease with depth and commonly becomes negligible at depths greater than 35-50 feet below ground surface.
- d. According to USGS publications, alluvial deposits above the Ogallala Formation are typically thin and are commonly hydraulically connected to the Ogallala Formation.

4. Information on flooding potential and flood protection measures:

- a. Based on the topographic positioning of the facility, the flooding potential at the discharge site, with respect to major precipitation and/or runoff events, appears minimal.
- b. Flood protection measures at the facility include berms to keep potential floodwaters out.

B. Additional Information

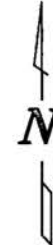
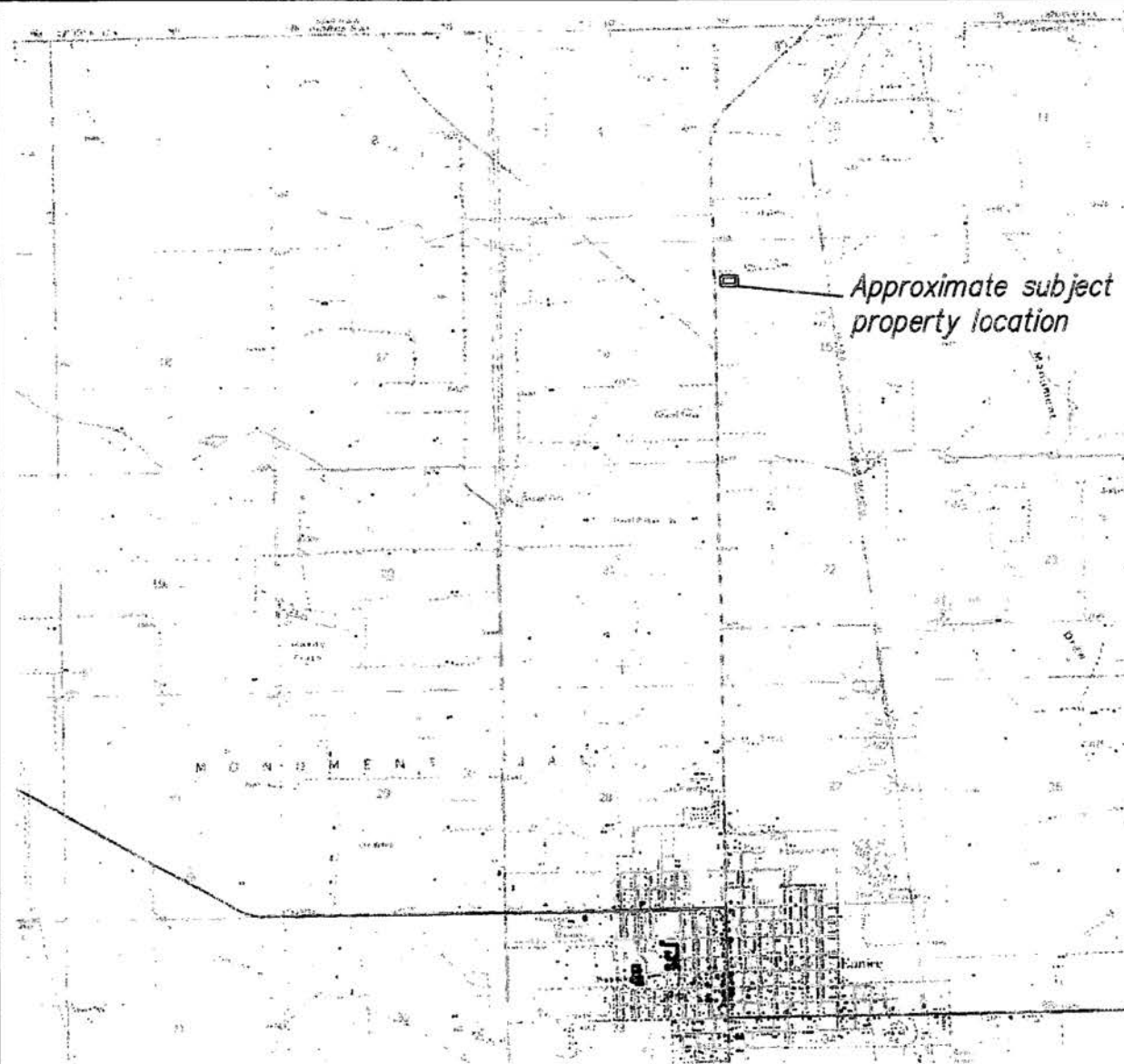
There is no additional information.

X. Other Compliance Information

See attached Appendices.







0 2,000 4,000

Scale: 1"=4,000'

**Note:**

Base map is the Eunice, New Mexico  
USGS 7.5 minute series topographic  
maps (1969; photorevised 1979)

**Site Location Map**  
**Key Energy Discharge Plan BW-028**  
**Near Eunice, New Mexico**

**Figure 1**

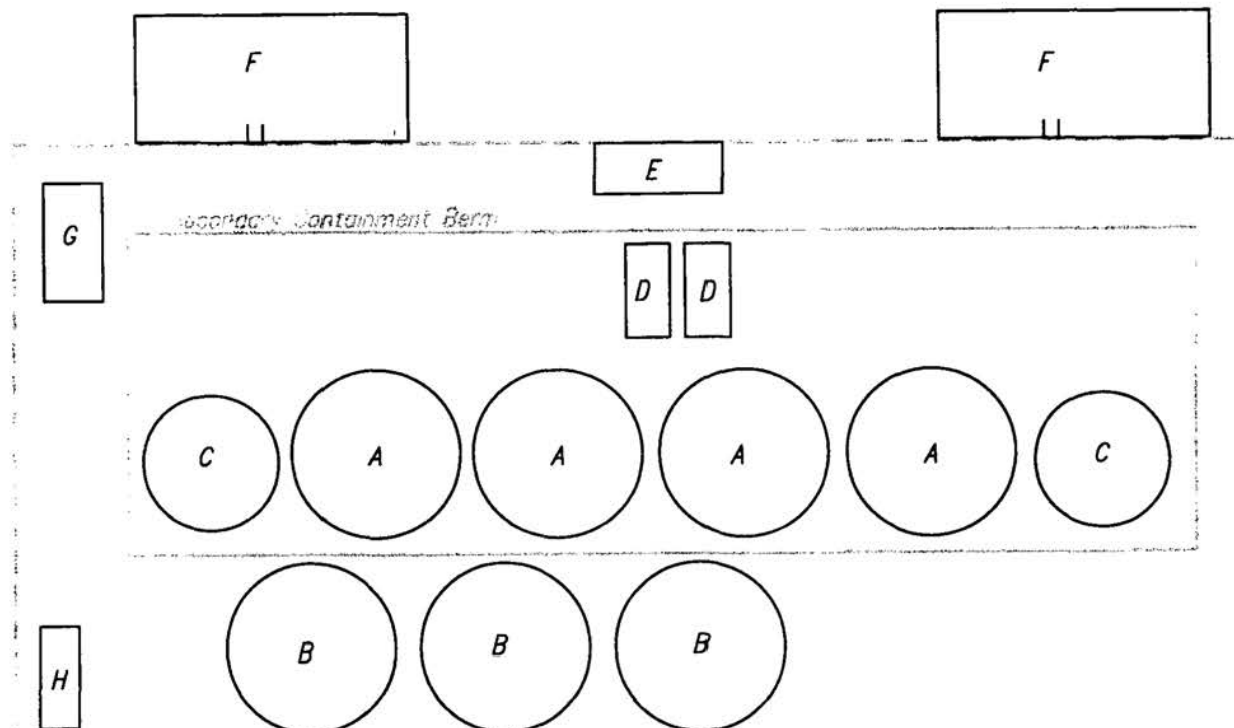
5317308  
08-07

Revisions  
By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr.: \_\_\_\_\_  
By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr.: \_\_\_\_\_  
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Drawn MLV  
Checked D.E.  
Approved D.E.



401 North Seventeenth Street, Suite 4  
Las Cruces, New Mexico 88005-8131  
(505) 647-0799 / 647-0680 (Fax)  
www.soudermiller.com  
Serving the Southwest & Rocky Mountains



Not to Scale

- |                               |   |
|-------------------------------|---|
| A Brine Water Storage Tank    | E Card Reader                               |
| B Freshwater Storage Tank     | F Concrete Loading Dock with Loading Valves |
| C Tank Pad Drain Storage Tank | G Freshwater Pump                           |
| D Brine Pump                  | H Electrical Panel                          |

**Facility Diagram**  
**Key Energy Discharge Plan BW-028**  
**Near Eunice, New Mexico**

**Figure 2**

5317308  
08-07

Revisions  
 By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr.: \_\_\_\_\_  
 By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr.: \_\_\_\_\_  
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Drawn: MLV  
 Checked: D.E.  
 Approved: D.E.

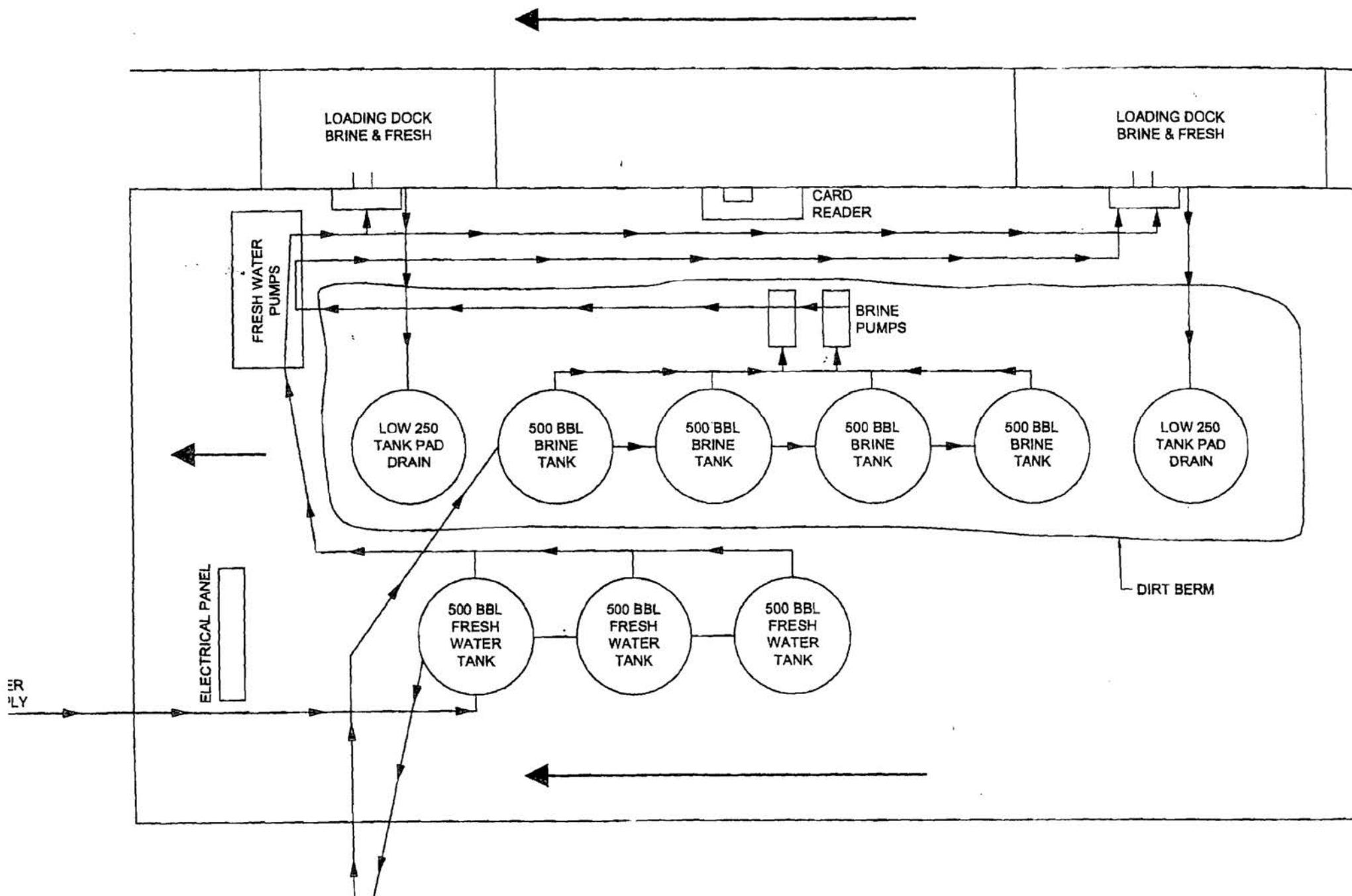


401 North Seventeenth Street, Suite 4  
 Las Cruces, New Mexico 88005-8131  
 (505) 647-0799 / 647-0880 (Fax)  
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## **Appendix A: Fluid Flow Diagram**



**Souder, Miller & Associates**  
Civil/Environmental Scientists & Engineers



## **Appendix B: Quarterly Inspection Checklist**



**Souder, Miller & Associates**  
Civil/Environmental Scientists & Engineers

**STORM WATER POLLUTION PREVENTION PLAN**  
**QUARTERLY INSPECTION CHECKLIST**  
may QUARTER, 2007

Inspector	Inspection Frequency	Date	Area Inspected	Items to Inspect	Observation	Corrective Action Recommended
Sehn	Quarterly	5-1-07	Chemical Dock	Integrity of Tanks, Foundations, Piping and Supports	ok	
				Tank Valves Closed	✓	
				Tank Labeled with Contents	none	
				Releases from Tank	none	
				Housekeeping	ok	
				Accumulated Liquids Observed for Sheen, Solids	none	
	Quarterly		KCI Water and Freshwater Tanks	Integrity of Tanks, Foundations, Piping and Supports	ok	
				Tank Valves Closed	✓	
				Tank Labeled with Contents	none	
				Releases from Tank	none	
				Housekeeping	ok	
				Accumulated Liquids Observed for	NA	



Inspector	Inspection Frequency	Date	Area Inspected	Items to Inspect	Observation	Corrective Action Recommended
Sam S		5-1-07		Sheen, Solids	none	
	Quarterly		Spill Response Equipment	Spill Response Drums in Correct Locations On Site	ok	
				Drums Labeled as Spill Response Equipment	ok	
				Fire Extinguishers in Correct Locations On Site	ok	
	Quarterly		Pioneer Freshwater Station and Chemical Dock Property	Housekeeping	ok	
				Lighting	ok	
	Quarterly		Visual Observation of Any Standing Storm Water	Evidence of a Release	✓	
	Quarterly		Previous Week Inspection Checklist	Status of Corrective Actions Recommended	✓	

\* If any actions recommended for deficiencies that could impact releases to storm water, a work order must be completed and a copy attached to this checklist.

## **Appendix C: Key Energy's Emergency Contingency Plan**



**Souder, Miller & Associates**  
Civil/Environmental Scientists & Engineers



# **BUSINESS EMERGENCY CONTINGENCY PLAN**

**for**

## **STATE S BRINE STATION**

Prepared by:

Key Energy Services, Inc.  
6 Desta Drive, Suite 4400  
Midland, Texas 79705  
432 571-7536  
432 571-7173

Daniel K. Gibson, P.G.  
Corporate Environmental Manager  
Louis Sanchez  
Corporate Environmental Specialist II

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 Exhibit 1      Location Map	
 Exhibit 2      Site Map	

**Name of Facility**

State S Brine Station

**Type of Facility**

Brine and Water Station

**Location of Facility**

2.5 miles north of Eunice, New Mexico on County Road 207 on the east side of the road.

**Latitude and Longitude**

32° 29' 02.5" ~ 103° 09' 30.8"

**SIC Code**

1389

**Name and Address of Owner/Operator**

Key Energy Services, LLC  
6 Desta Drive, Suite 4400  
Midland, Texas 79705  
(432) 571-7536

**Designated Person Accountable for Oil Spill Prevention at Facility**

Sam Blevins  
(505) 394-2581 ~ office  
(505) 631-7420 ~ cell

**Alternates**

Eddy Pabela  
(505) 394-2583 ~ office  
(505) 631-7430 ~ cell

James Woodring  
(505) 394-2581 ~ office  
(505) 394-3218 ~ cell

**Reportable Oil Spill Event**

There have been no known spill events at this yard in the last three years.

## **Spill Control Equipment On Site**

Absorbent

Fire Extinguishers and Blankets

Shovels, Rakes, and Squeegee

Two-Way Radios

Cellular Telephones

Pagers

## **Spill Control Equipment If Needed**

Vacuum Trucks ~ 70-130 Barrel Capacity

Loaders ~ 3-5 Cubic Yard Capacity

Excavators

Dump Trucks ~ 12-16 Cubic Yard Capacity

Bins ~ 12-40 Cubic Yard Capacity

Motor Grader

Bull Dozer



## Emergency Procedures

This contingency plan was developed to address the general procedures to be followed in the event of a spill. The procedures to be followed will be determined by the size of the spill and the requirements of the applicable regulatory agencies.

### A. Procedures to be followed in case of a spill:

1. The first employee that notices a spill will evaluate the situation and undertake the following steps in the order deemed most important:
  - a. Shut off the source, if possible without endangering themselves.
  - b. Contain the spill if possible.
  - c. Notify the supervisor and describe the situation accurately. A list of Key's personnel and their telephone numbers are included in this report.
  - d. Continue operations as directed.
2. The supervisor will initiate action according to the report received from the operating employee. The supervisor will make a personal assessment of the problem and take whatever additional steps deemed to be necessary.
3. When the supervisor is assured that all necessary steps have been taken to reduce the danger to the public and/or damage to the property and that sufficient people have been directed toward stopping the source and containing the spill, all appropriate company personnel and governmental agencies will be notified.
4. Continue containment/clean up operations.

### B. Containment:

1. Additional containment basins, dikes, or diversionary structure will be constructed.
2. If insufficient equipment and personnel are available at the site, assistance will be required from qualified contractors. A list of local spill containment contractors and equipment are included in this report.
3. Control of the spill can also be provided by the expeditious use of vacuum trucks and other removal methods.
4. Other clean up techniques will be used based on the requirements of the applicable federal, state, and local agencies.

## Emergency Response Agencies

### *Eunice*

Emergency Fire and Medical.....	911
Lea County Oil Conservation Division (OCD).....	(505) 393-6161
Lea County Environmental Department .....	(505) 397-9224
Eunice Fire Department .....	(505) 394-2112
Eunice Police Department .....	(505) 394-2112

### *State of New Mexico*

New Mexico State Police .....	(505) 392-5588
New Mexico Environmental Department .....	(505) 827-2855
NMOCD .....	(505) 476-3440

### *Federal*

National Response Center .....	(800) 424-8802
National Poison Control Center .....	(800) 942-5969
EPA Region 6 Emergency Response Center .....	(214) 665-6428
Chemtrec .....	(800) 424-9300

## **Local Spill Containment Contractors**

SMA

612 E Murray Dr  
Farmington, NM 87401  
(505) 325-5667

CRA

2135 S. Loop 250 West  
Midland, Texas 79703  
(432) 686-0086  
Emergency Response: (866) 812-9565  
CRA contact: Luke D. Markham

## **Appendix D: Web Soil Survey Map and Description**



**Souder, Miller & Associates**  
Civil/Environmental Scientists & Engineers

Soil Map—Lea County, New Mexico




Natural Resources  
Conservation Service

Web Soil Survey 2.0  
National Cooperative Soil Survey

8/28/2007  
Page 1 of 3

## MAP LEGEND


















### Area of Interest (AOI)


 Area of Interest (AOI)


### Soils


Soil Map Units

### Special Point Features




-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot
-  Spoil Area
-  Stony Spot

 Very Stony Spot

 Wet Spot



 Other

### Special Line Features



-  Gully
-  Short Steep Slope
-  Other

### Political Features

#### Municipalities

-  Cities
-  Urban Areas






### Water Features

-  Oceans
-  Streams and Canals

### Transportation

-  Rails

### Roads

-  Interstate Highways
-  US Routes
-  State Highways
-  Local Roads
-  Other Roads

## MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
Coordinate System: UTM Zone 13N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lea County, New Mexico  
Survey Area Data: Version 7, Jan 13, 2007

Date(s) aerial images were photographed: 11/1/1997

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

Lea County, New Mexico (NM025)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SR	Simona-Upton association	7.4	100.0%
Totals for Area of Interest (AOI)		7.4	100.0%

## Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

## Report—Map Unit Description (Brief, Generated)

### Lea County, New Mexico

**Map Unit:** SR—Simona-Upton association

**Component:** Simona (50%)

The Simona component makes up 50 percent of the map unit. Slopes are 0 to 3 percent. This component is on ridges, tablelands. The parent material consists of calcareous eolian deposits derived from sedimentary rock. Depth to a root restrictive layer, petrocalcic, is 7 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R042XC002NM Shallow Sandy ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 30 percent.

**Component:** Upton (35%)

The Upton component makes up 35 percent of the map unit. Slopes are 0 to 3 percent. This component is on ridges, tablelands. The parent material consists of calcareous eolian deposits derived from sedimentary rock. Depth to a root restrictive layer, petrocalcic, is 7 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R042XC025NM Shallow ecological site. Nonirrigated land capability classification is 7s. Irrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 58 percent.

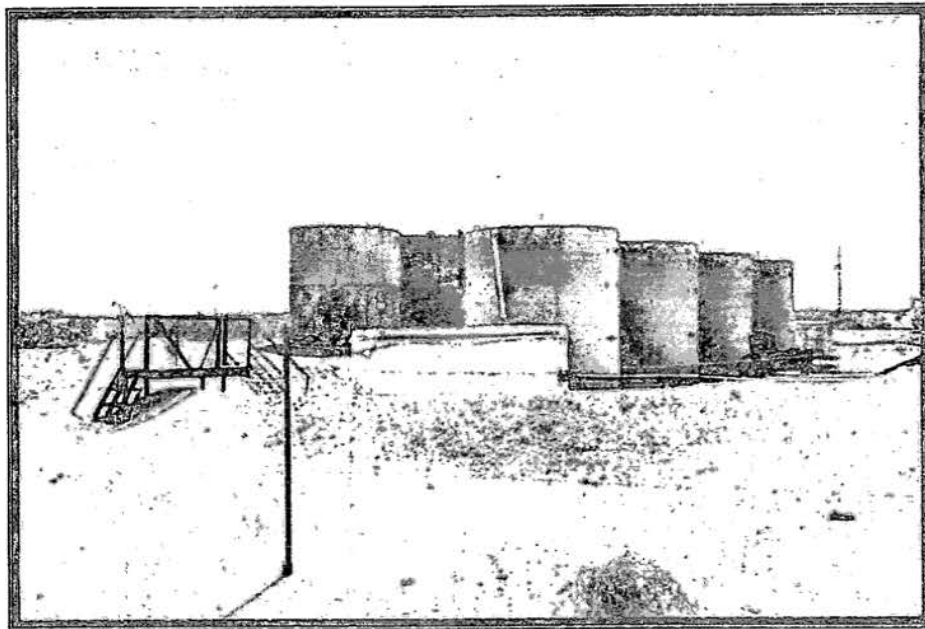
### **Data Source Information**

Soil Survey Area: Lea County, New Mexico  
Survey Area Data: Version 7, Jan 13, 2007

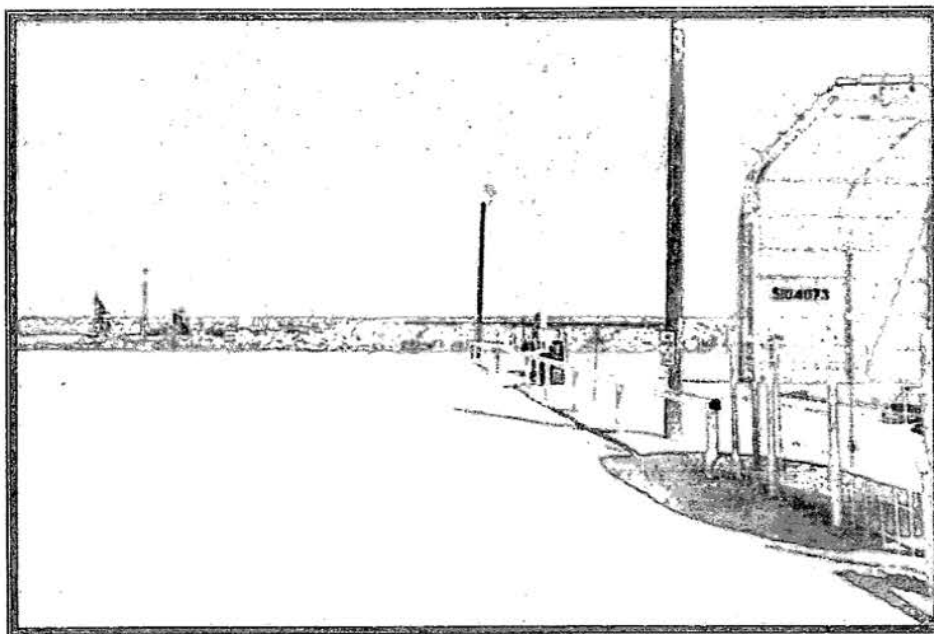
## **Appendix E: Photographs**

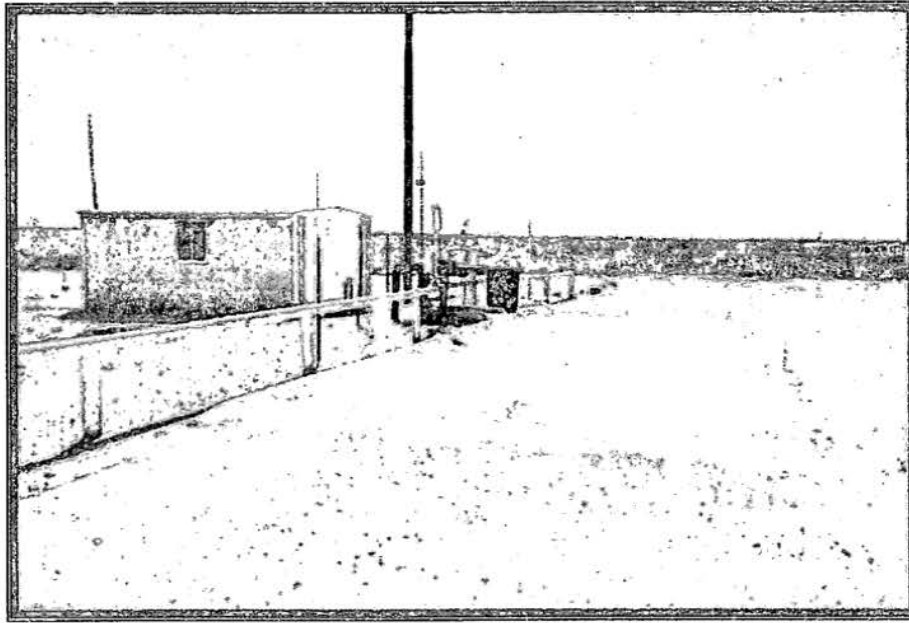


**Souder, Miller & Associates**  
Civil/Environmental Scientists & Engineers

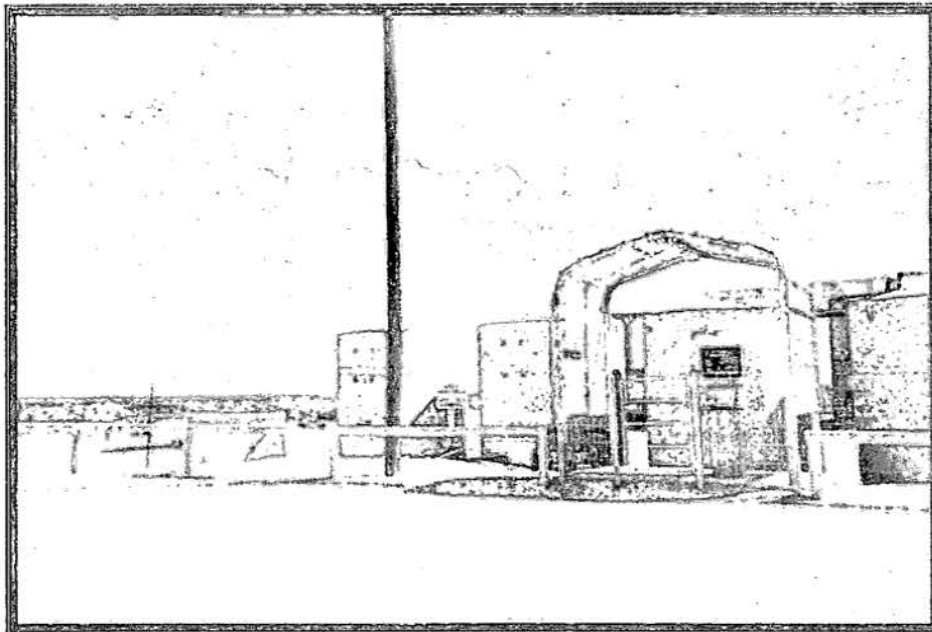


**Above:** Brine water, tank pad drain, and freshwater tanks on the property  
**Below:** Concrete loading docks on the property





**Above:** Concrete loading pad and freshwater pump house on the property  
**Below:** Card reader on the property







# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

Oil Conservation Division

August 14, 2007

Mr. Dan Gibson  
Key Energy Services, LLC  
6 Desta Drive, Suite 4400  
Midland, Texas 79705

Re: Key Energy Services, LLC, Brine Well Discharge Plan (BW-028)  
State Well #1 (API# 30-025-33547)  
UL:E 15-21S-37E, Lea County

Dear Mr. Gibson:

The New Mexico Oil Conservation Division (OCD), Environmental Bureau (EB) has confirmed that your discharge plan is currently expired and without a permit. This is a violation of your discharge plan permit and is subject to penalties under 20.6.2 NMAC.

Therefore, the EB hereby requests that you submit a discharge plan renewal application with \$100.00 filing fee (check made payable to the "Water Quality Management Fund") by September 17, 2007. Along with your application, you will need to address the attached 20.6.2.3108 NMAC Public Notice provisions for administrative completeness.

In addition, the OCD is upgrading the minimum bond amount to \$50,000.00 for Class I and III Wells effective January 1, 2008. Our current bond record for your brine well indicates that you satisfy the \$50,000.00 amount. Our bond record for your well currently indicates the following:

Bond: RLB0003249; \$50,000.00; 6/01/01; RLI Insurance Company

Please contact me at (505-476-3491) or E-mail [carlj.chavez@state.nm.us](mailto:carlj.chavez@state.nm.us) if you have questions.  
Thank you.

Sincerely,

Mr. Carl J. Chavez

UIC Quality Assurance/Quality Control Officer

xc: OCD District Office



Key Energy Services  
6 Desta Drive  
Suite 4400  
Midland, Texas 79705

Telephone: 432.571.7382  
Facsimile: 432.571.7173  
www.keyenergy.com

September 13, 2007

State of New Mexico  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Re: Discharge Plan Renewal (BW-028)

To Whom It May Concern:

Enclosed you will find the Discharge Plan Renewal for Key's brine station near Eunice. I have also enclosed Key's check for \$100.00 for the renewal fee.

If you need anything else, please let me know.

Sincerely,

A handwritten signature in black ink, appearing to read "Louis Sanchez", is written over a horizontal line.

Louis Sanchez

Enclosure

cc: Mr. Sam Blevins  
Key Energy Services, Inc.  
1801 Ave I  
Box 123  
Eunice, New Mexico 88231

ACKNOWLEDGEMENT OF RECEIPT  
OF CHECK/CASH

I hereby acknowledge receipt of check No.

dated 9/14/07

or cash received on \_\_\_\_\_ in the amount of \$ 100<sup>00</sup>

from Key Energy Services

for BW-028

Submitted by: Lawrence Romero Date: 9/17/07

Submitted to ASD by: Lawrence Romero Date: 9/19/07

Received in ASD by: \_\_\_\_\_ Date: \_\_\_\_\_

Filing Fee ☒ New Facility \_\_\_\_\_ Renewal \_\_\_\_\_

Modification \_\_\_\_\_ Other \_\_\_\_\_

Organization Code 521.07 Applicable FY 2004

To be deposited in the Water Quality Management Fund.

Full Payment \_\_\_\_\_ or Annual Increment \_\_\_\_\_

---

---

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

Revised June 10, 2003

Submit Original  
Plus 1 Copy  
to Santa Fe  
1 Copy to Appropriate  
District Office

## DISCHARGE PLAN APPLICATION FOR BRINE EXTRACTION FACILITIES

(Refer to the OCD Guidelines for assistance in completing the application)


☐ New ☒ Renewal

- I. Facility Name: Key Energy Services, Inc. Brine & Water Station (BW-028)
- II. Operator: Yale E. Key Inc. dba Key Energy Services Inc.  
Address: 6 Desta Drive, Suite 4400, Midland, TX 79705  
Contact Person: Mr. Louis Sanchez Phone: 432-571-7382
- III. Location: NW /4 NW /4 Section 15 Township 21S Range 37E  
Submit large scale topographic map showing exact location.
- IV. Attach the name and address of the landowner of the facility site.
- V. Attach a description of the types and quantities of fluids at the facility.
- VI. Attach a description of all fluid transfer and storage and fluid and solid disposal facilities.
- VII. Attach a description of underground facilities (i.e. brine extraction well).
- VIII. Attach a contingency plan for reporting and clean-up of spills or releases.
- IX. Attach geological/hydrological evidence demonstrating that brine extraction operations will not adversely impact fresh water.
- X. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
- XI. CERTIFICATION:

*I hereby certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.*

Name: Louis Sanchez

Title: Corporate Env. Specialist

Signature: 

Date: 9/13/07

E-mail Address: lsanchez@keyenergy.com

### **Attachments for Discharge Plan Application**

Key Energy Services, Inc., Brine & Water Station (BW-028)  
2.5 Miles North of Eunice on North Loop 18 (County Road 207)  
Near Eunice, NM

#### **I. Name of Facility**

Key Energy Services, Inc. Brine & Water Station (BW-028)

#### **II. Name of Operator or Legally Responsible Party and Local Representative**

Yale E. Key Inc. dba Key Energy Services Inc.  
6 Desta Drive, Suite 4400  
Midland, TX 79705

Local Manager:  
Mr. Sam Blevins  
(505) 394-2581

#### **III. Location of Facility**

The site is located approximately 2.5 miles of Eunice on North Loop 18 (County Road 207) within the northwest quarter of the northwest quarter of Section 15 in Township 21 South, Range 37 East in Lea County, New Mexico. Figure 1 shows the approximate location of the facility on the U.S.G.S. topographic map of Eunice New Mexico (1969; photorevised 1979).

#### **IV. Landowner of the Facility Site**

The facility is leased from:

Millard Deck Trust  
Attn: Mr. Tim Wolters  
P.O. Box 270  
Midland, TX, 79702

#### **V. Description of Types and Quantities of Fluids Stored or Used at the Facility**

The facility currently stores approximately 2,000 barrels of 10 pound brine water, 1,500 barrels of freshwater, and 500 barrels of brine wastewater and rainwater from the loading pad drains. The brine water is stored in fiberglass storage tanks of 500 barrel capacity each, and the freshwater is stored in bolted steel storage tanks of 500 barrel capacity each, resulting in a brine water storage capacity of 2,000 barrels and a freshwater storage capacity of 1,500 barrels. The brine wastewater and rainwater is stored in fiberglass storage tanks of 250 barrel capacity each, resulting in a wastewater storage capacity of



500 barrels. The freshwater is obtained from the City of Eunice, and the brine water is obtained from the brine water extraction well located at the facility site. Approximately 500 to 750 barrels of brine water are produced on a daily basis. The storage locations of these fluids are depicted in Figure 2.

## VI. Description of Fluid Transfer and Storage

A. There are four (4) brine water storage tanks of 500 barrel capacity each, three (3) freshwater storage tanks of 500 barrel capacity each, and two (2) tank pad drain storage tanks of 250 barrel capacity each located aboveground at the site. The brine water storage tanks are manifolded together, and the freshwater storage tanks are manifolded together. The freshwater is provided by the City of Eunice and runs through an underground, 4-inch diameter steel pipe. The freshwater line that connects to the storage tanks is aboveground, 3-inch diameter poly-pipe. The manifold pipes are aboveground, 4-inch diameter steel pipes, while the pipes that lead to and from the pump house are aboveground, 4-inch diameter poly-pipe. The pipes that lead to and from the brine extraction well are aboveground, 2 ½-inch diameter plastic coated pipes. The pipes from the pumps to the load rack are aboveground, 4-inch diameter poly-pipes. The pipeline was installed approximately four (4) years ago. The water circulates through the pipelines with low level pressure (less than 100 pounds per square inch). Appendix A contains the fluid flow schematic for the facility.

1. Tank and Chemical Storage Area (constructed before 2002): The five (5) 500 barrel capacity brine water storage tanks are interconnected creating a combined volume of 2,500 barrels of brine storage capacity. The brine water storage tanks and the pad drain storage tanks are surrounded by a secondary containment berm, lined with an impervious engineered layer, that is approximately 100 feet by 50 feet and approximately three (3) feet in height. Based on these approximations, the bermed area can contain approximately 3,500 barrels of fluid.
2. Surface Impoundments (constructed in 2003): There are two (2) curbed, concrete loading areas that contain a drain and a small sump to catch runoff from brine loading and unloading activities. The loading areas slope toward the metal drains, which flow to the sump.
3. Leach Fields: No leach fields are present at this facility.
4. Solids Disposal: There are no solids/sludges that accumulate at the facility.

B. For each of the transfer/storage/disposal methods listed above:

1. Tank and Chemical Storage Area:
  - i. Groundwater is protected from brine water seepage by an impervious liner within the brine water storage tank area.





- ii. The location and design of the site and the methods available for sampling and for measurement/calculation of flow are on file with the NMOCD in Santa Fe.
- iii. The site is equipped with an alarm system that detects overflow of the brine water storage tanks.

2. Surface Impoundments:

- i. The transfer points are contained over curbed, concrete areas, which have a drain and a sump to catch all runoff.
- ii. The location and design of the site and the methods available for sampling and for measurement/calculation of flow are on file with the NMOCD in Santa Fe.
- iii. The site is equipped with an alarm system that detects overflow of the sump catch tank.

3. Leach Fields: No leach fields are present at this facility.

4. Solids Disposal: There are no solids/sludges that accumulate at the facility.

C. Off-Site Disposal

Brine wastewater and rainwater collected in the drains of the loading pads are stored in two (2) sump catch tanks of 250 barrel capacity each. Approximately two (2) times per year, the brine wastewater and rain water from the tank are hauled by Key Energy Services to their Christmas Disposal facility approximately 3.5 miles south of Eunice for ultimate disposal. Key Energy is a licensed waste hauler.

D. Proposed Modifications

No modifications to the facility are proposed at this time.

E. Underground Piping

The only underground piping present at the facility are the 4-inch diameter, steel pipes that connect to the City of Eunice water line. The water circulates through the pipelines with low level pressure (less than 100 pounds per square inch).

F. Inspection, Maintenance and Reporting

- 1. The facility is inspected on a daily basis by drivers and supervisors. Quarterly inspections are performed by a supervisor and documented deficiencies/violations are kept on file. A copy of the most recent quarterly inspection is provided as Appendix B. Spills and releases at the facility will be reported to the OCD, as required.



2. Groundwater monitoring wells are not present at the facility, therefore, no inspection or maintenance of monitoring wells is required.
3. Please refer to Key Energy Services' SPCC and SWPP plans, which discuss general procedures for containment of precipitation and runoff, and includes information on curbing, drainage, disposition, notification, etc.
4. The tanks and piping located at the facility are inspected by Key Energy employees on a routine basis. Underground lines are pressure tested annually. The site is also equipped with an alarm system that detects overflow of the tanks. For details on procedures to be undertaken if significant leaks are detected, please refer to Key Energy's Emergency Contingency Plan, provided as Appendix C.
5. General Closure Plan:
  - i. All fluids will be removed and transported to an appropriate OCD-approved facility. Equipment will be dismantled and removed from the site. Confirmation samples will be collected beneath the former brine water storage tanks and beneath any subsurface features (drains and sumps).
  - ii. The facility will be graded to as close to the original contour as is practical, including removing secondary containment berms.
  - iii. Fluids, sludges and solids will be properly disposed pursuant to rules and regulations in effect at the time of closure.

## VII. Brine Extraction Well

There is one brine water extraction well (State S #1) associated with the facility. The total depth of the well is 2,200 feet below ground surface. The well consists of 1,360 feet of 8 <sup>5</sup>/<sub>8</sub> inch diameter casing and has open hole completion. There is 2,074 feet of 2 <sup>7</sup>/<sub>8</sub> inch diameter metal pipe that goes through the casing. Freshwater from the City of Eunice is pumped through the casing and circulates through an underground salt cavern. The water then circulates back up the well piping for collection.

### A. Drilling, Deepening, or Plug Back Operations

No modifications to the brine extraction well are anticipated at this time. However, should modifications to the brine extraction well become necessary in the future, Key Energy Services will file the following plans, specifications, and pertinent documents with the OCD 90 days prior to start-up of the planned operation:

1. Form C-101 "Application for Permit to Drill, Deepen, or Plug Back" (OCD Rule 1101).
2. A map showing the number, name, and location of all producing oil and gas wells, injection wells, abandoned holes, surface bodies of water, watercourses, springs, mines, quarries, water wells, and other pertinent surface features within ¼ mile from the wellbore(s).
3. Maps and cross-sections indicating the general vertical and lateral limits of all groundwater having 10,000 mg/L or less total dissolved solids (TDS) within one mile of the site. The maps will show the position of such groundwater within this area relative to the injection formation, and will indicate the direction of water movement, where known, for each zone of groundwater.
4. A list all abandoned wells/shafts or other conduits in the area of review that penetrate the injection zone, identifying those which may provide a pathway for migration of contaminant through being improperly sealed, completed or abandoned. Details regarding what correction action will be taken prior to start up of operations to prevent any movement of contaminants into groundwater of less than/equal to 10,000 mg/L TDS through such conduits due to the proposed injection activity (e.g. plugging open holes) will be provided. Completion and plugging records will also be included.

If information becomes available after operations have begun, which indications the presence of a conduit that will require plugging, then the injection pressure will be limited to avoid movement of contaminants through such a conduit into protected groundwater.

5. Maps and cross-sections detailing the geology and geologic structure of the local area.
6. A proposed formation testing program to obtain an analysis or description of fluids in the receiving formation.
7. Schematic drawings of the surface and subsurface construction details.
8. Proposed drilling, evaluation, and testing programs, including logging procedures, coring program, and deviation checks.
9. Proposed stimulation, injection, and operation procedures with respect to WQCC 5-206 limitations.
10. Submittal of a plan for plugging and abandonment of the well that meets the requirements of WQCC regulations section 5-209. **A plugging bond pursuant to OCD Rule 101, as required, will be submitted prior to commencement of any new well drilling operations.**



B. Workover Operations

Before performing remedial work, altering or pulling casing, plugging or abandonment, or any other workover, approval of OCD will be obtained by Key Energy. Approval will be requested on OCD Form C-103 "Sundry Notices and Reports on Wells" (OCD Rule 1103-A).

C. Additional Information Required with Discharge Plan

The following information is on file with the NMOCD in Santa Fe, New Mexico and is available online at the OCD website:

- Evaluation, completion and well workover information
- The proposed maximum and average injection pressures and injection volume
- A proposed mechanical integrity testing program
- An analysis of the injection fluid and brine
- A comparison of volumes of freshwater injected to the volume of brine to detect underground losses
- Submittal of a quarterly report listing, by month, the volume of fluids injected and produced
- Information on the size and extent of the solution cavern
- Geologic/engineering data demonstrating that continued brine extraction will not cause surface subsidence or catastrophic collapse

VIII. Spill/Leak Prevention and Reporting Procedures (Contingency Plans)

Key Energy's Emergency Contingency Plan is provided as Appendix C.

IX. Site Characteristics

A. As required by OCD Guidelines, the following hydrologic/geologic information is provided:

1. According to the U.S.G.S. topographic map of Eunice, New Mexico (1969; photorevised in 1979), there is an arroyo approximately 500 feet to the north of the facility and an aqueduct approximately 3,700 feet to the north of the facility; no groundwater discharge sites (seeps, springs, marches, swamps) were located within one mile of the outside perimeter of the facility.

According to the New Mexico Office of the State Engineer's WATERS Database, there is one (1) water well (livestock watering well) within one-quarter mile of the facility.

2. According to the New Mexico Office of the State Engineer's WATERS Database, groundwater is encountered at a depth of between 50 to 70 feet below ground surface (bgs). According to the previous discharge plan, the



total dissolved solids content of the groundwater is approximately 1,200 mg/L.

3. Available information and reference sources for geology and geohydrology of the facility site is provided below:

- a. According to the Natural Resources Conservation Service Web Soil Survey, the facility is located on the Simona-Upton association. A summary of this soil type is provided as Appendix D.
- b. According to United States Geological Survey (USGS) publications, groundwater in the area occurs in the Ogallala Formation (a.k.a. the High Plain Aquifer) and can be up to approximately 350 feet thick.
- c. According to USGS publications, the Ogallala Formation is generally comprised of unconsolidated sand, silt, clay, and gravel. Sediments near the top of the formation are commonly cemented by calcium carbonate to form a caliche cap. Cementation is reported to generally decrease with depth and commonly becomes negligible at depths greater than 35-50 feet below ground surface.
- d. According to USGS publications, alluvial deposits above the Ogallala Formation are typically thin and are commonly hydraulically connected to the Ogallala Formation.

4. Information on flooding potential and flood protection measures:

- a. Based on the topographic positioning of the facility, the flooding potential at the discharge site, with respect to major precipitation and/or runoff events, appears minimal.
- b. Flood protection measures at the facility include berms to keep potential floodwaters out.

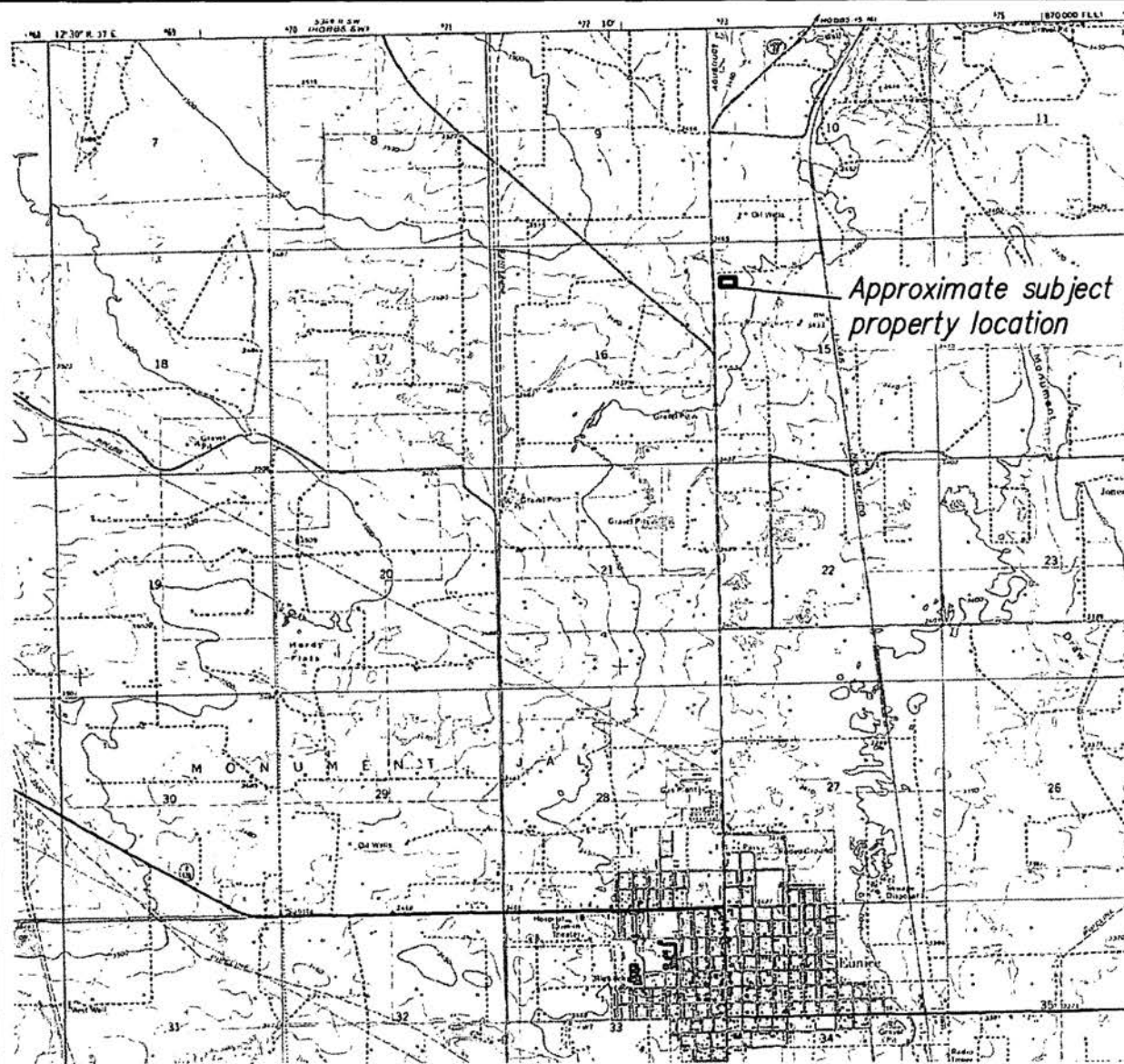
B. Additional Information

There is no additional information.

X. Other Compliance Information

See attached Appendices.





0 2,000 4,000

Scale: 1"=4,000'

Note:  
Base map is the Eunice, New Mexico  
USGS 7.5 minute series topographic  
maps (1969; photorevised 1979)

**Site Location Map**  
**Key Energy Discharge Plan BW-028**  
**Near Eunice, New Mexico**

**Figure 1**

5317308  
08-07

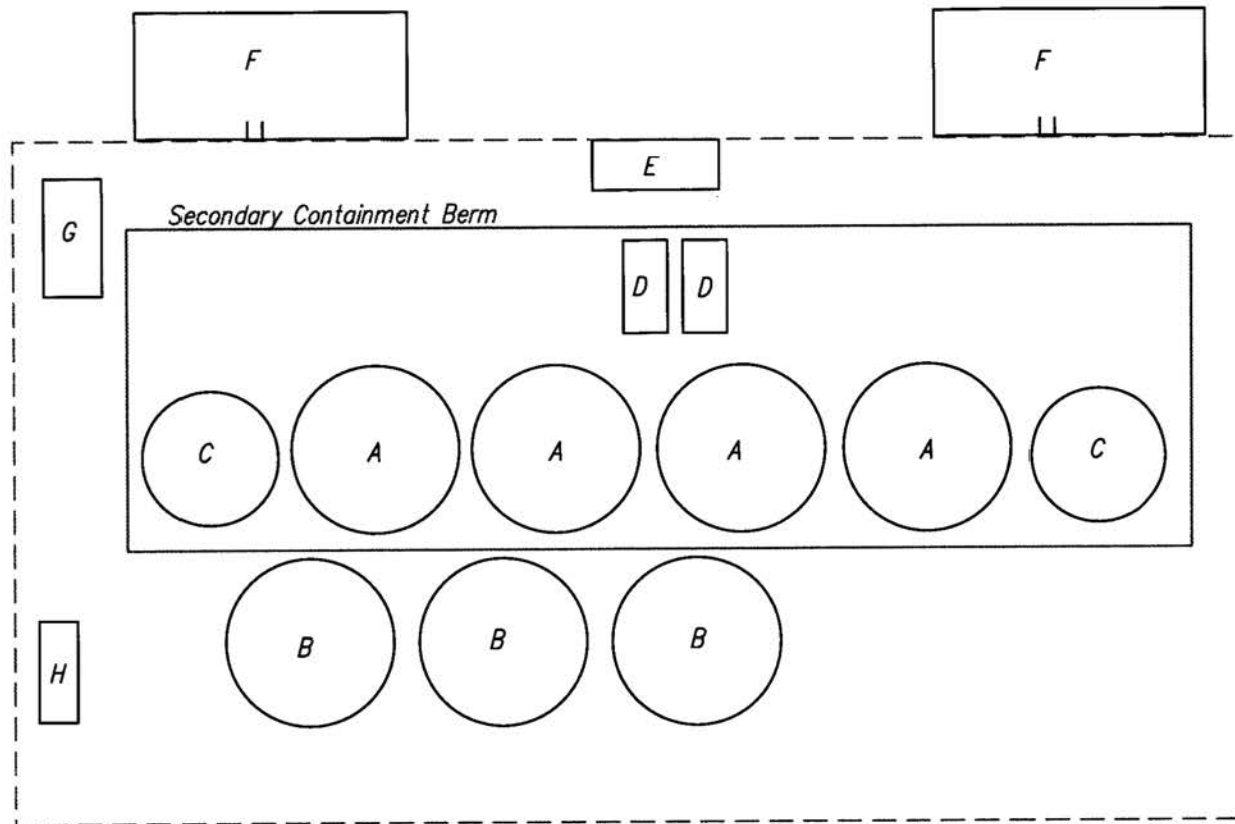
Revisions  
By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr.: \_\_\_\_\_  
By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr.: \_\_\_\_\_  
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Drawn MLV  
Checked DJE  
Approved DJE



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A Brine Water Storage Tank

B Freshwater Storage Tank

C Tank Pad Drain Storage Tank

D Brine Pump

E Card Reader

F Concrete Loading Dock with Loading Valves

G Freshwater Pump

H Electrical Panel

**Facility Diagram**  
**Key Energy Discharge Plan BW-028**  
**Near Eunice, New Mexico**

**Figure 2**

5372308  
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Revisions  
 By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr.: \_\_\_\_\_  
 By: \_\_\_\_\_ Date: \_\_\_\_\_ Descr.: \_\_\_\_\_  
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 Checked DJE  
 Approved DJE



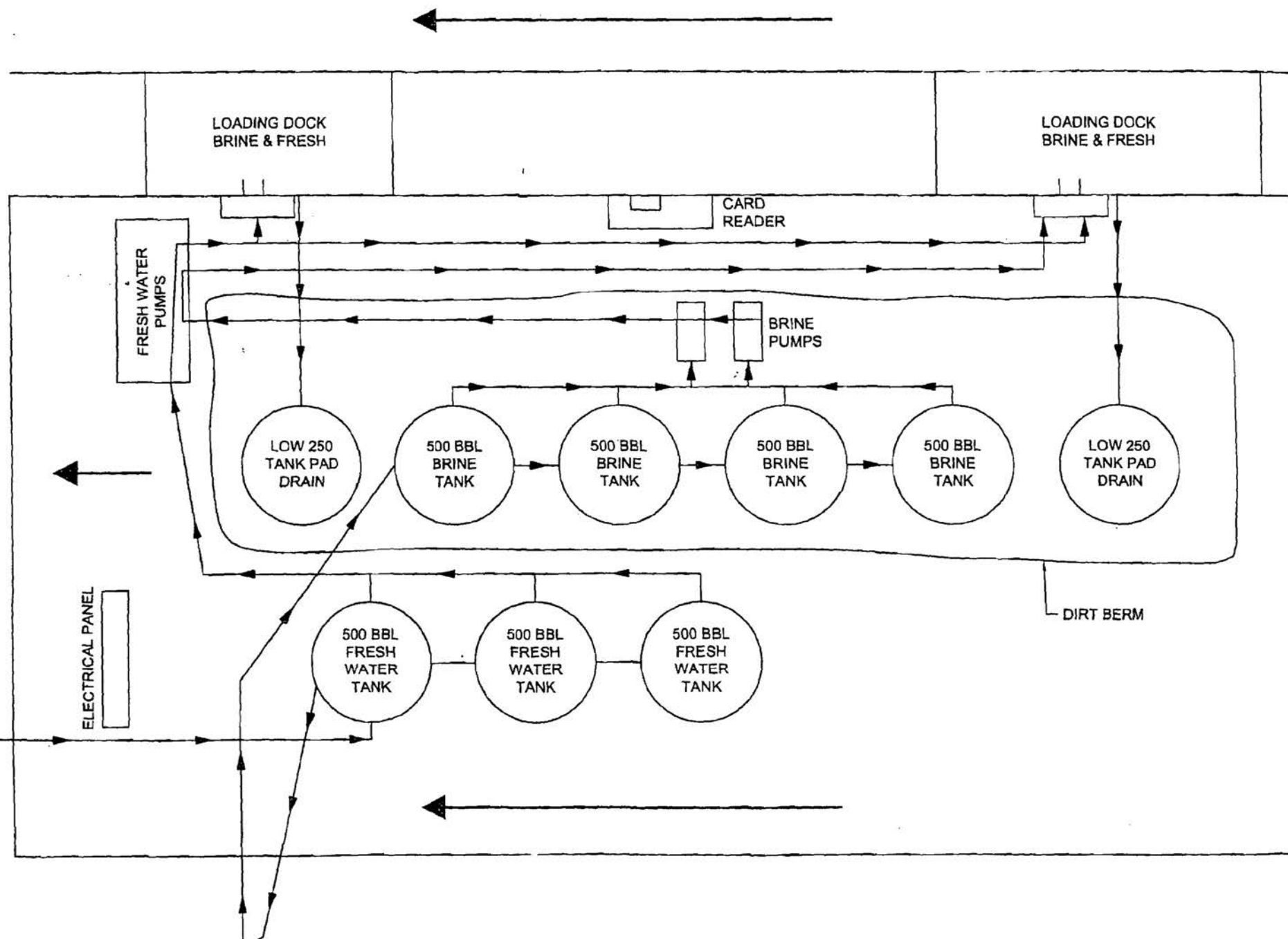
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## **Appendix A: Fluid Flow Diagram**



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ER  
LY

## **Appendix B: Quarterly Inspection Checklist**



**Souder, Miller & Associates**  
Civil/Environmental Scientists & Engineers

**STORM WATER POLLUTION PREVENTION PLAN**  
**QUARTERLY INSPECTION CHECKLIST**  
May QUARTER, 2007

Inspector	Inspection Frequency	Date	Area Inspected	Items to Inspect	Observation	Corrective Action Recommended
Sheen	Quarterly	5-1-07	Chemical Dock	Integrity of Tanks, Foundations, Piping and Supports	ok	
				Tank Valves Closed	✓	
				Tank Labeled with Contents	none	
				Releases from Tank	none	
				Housekeeping	ok	
				Accumulated Liquids Observed for Sheen, Solids	none	
	Quarterly		KCl Water and Freshwater Tanks	Integrity of Tanks, Foundations, Piping and Supports	ok	
				Tank Valves Closed	✓	
				Tank Labeled with Contents	none	
				Releases from Tank	none	
				Housekeeping	ok	
				Accumulated Liquids Observed for	NA	

Inspector	Inspection Frequency	Date	Area Inspected	Items to Inspect	Observation	Corrective Action Recommended
John S		5-1-07		Sheen, Solids	<del>none</del> none	
	Quarterly		Spill Response Equipment	Spill Response Drums in Correct Locations On Site	ok	
				Drums Labeled as Spill Response Equipment	ok	
				Fire Extinguishers in Correct Locations On Site	ok	
	Quarterly		Pioneer Freshwater Station and Chemical Dock Property	Housekeeping	ok	
				Lighting	ok	
	Quarterly		Visual Observation of Any Standing Storm Water	Evidence of a Release	✓	
	Quarterly		Previous Week Inspection Checklist	Status of Corrective Actions Recommended	✓	

\* If any actions recommended for deficiencies that could impact releases to storm water, a work order must be completed and a copy attached to this checklist.

## **Appendix C: Key Energy's Emergency Contingency Plan**



**Souder, Miller & Associates**  
Civil/Environmental Scientists & Engineers



# **BUSINESS EMERGENCY CONTINGENCY PLAN**

**for**

## **STATE S BRINE STATION**

Prepared by:

Key Energy Services, Inc.  
6 Desta Drive, Suite 4400  
Midland, Texas 79705  
432 571-7536  
432 571-7173

Daniel K. Gibson, P.G.  
Corporate Environmental Manager  
Louis Sanchez  
Corporate Environmental Specialist II



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Location of Facility .....	3
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SIC Code .....	3
Name and Address of Owner/Operator.....	3
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Alternates.....	3
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Spill Control Equipment On Site.....	4
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Exhibit 1      Location Map

Exhibit 2      Site Map

**Name of Facility**

State S Brine Station

**Type of Facility**

Brine and Water Station

**Location of Facility**

2.5 miles north of Eunice, New Mexico on County Road 207 on the east side of the road.

**Latitude and Longitude**

32° 29' 02.5" ~ 103° 09' 30.8"

**SIC Code**

1389

**Name and Address of Owner/Operator**

Key Energy Services, LLC  
6 Desta Drive, Suite 4400  
Midland, Texas 79705  
(432) 571-7536

**Designated Person Accountable for Oil Spill Prevention at Facility**

Sam Blevins  
(505) 394-2581 ~ office  
(505) 631-7420 ~ cell

**Alternates**

Eddy Fabela  
(505) 394-2583 ~ office  
(505) 631-7430 ~ cell

James Woodring  
(505) 394-2581 ~ office  
(505) 394-3218 ~ cell

**Reportable Oil Spill Event**

There have been no known spill events at this yard in the last three years.

## **Spill Control Equipment On Site**

Absorbent

Fire Extinguishers and Blankets

Shovels, Rakes, and Squeegee

Two-Way Radios

Cellular Telephones

Pagers

## **Spill Control Equipment If Needed**

Vacuum Trucks ~ 70-130 Barrel Capacity

Loaders ~ 3-5 Cubic Yard Capacity

Excavators

Dump Trucks ~ 12-16 Cubic Yard Capacity

Bins ~ 12-40 Cubic Yard Capacity

Motor Grader

Bull Dozer

## Emergency Procedures

This contingency plan was developed to address the general procedures to be followed in the event of a spill. The procedures to be followed will be determined by the size of the spill and the requirements of the applicable regulatory agencies.

### A. Procedures to be followed in case of a spill:

1. The first employee that notices a spill will evaluate the situation and undertake the following steps in the order deemed most important:
  - a. Shut off the source, if possible without endangering themselves.
  - b. Contain the spill if possible.
  - c. Notify the supervisor and describe the situation accurately. A list of Key's personnel and their telephone numbers are included in this report.
  - d. Continue operations as directed.
2. The supervisor will initiate action according to the report received from the operating employee. The supervisor will make a personal assessment of the problem and take whatever additional steps deemed to be necessary.
3. When the supervisor is assured that all necessary steps have been taken to reduce the danger to the public and/or damage to the property and that sufficient people have been directed toward stopping the source and containing the spill, all appropriate company personnel and governmental agencies will be notified.
4. Continue containment/clean up operations.

### B. Containment:

1. Additional containment basins, dikes, or diversionary structure will be constructed.
2. If insufficient equipment and personnel are available at the site, assistance will be required from qualified contractors. A list of local spill containment contractors and equipment are included in this report.
3. Control of the spill can also be provided by the expeditious use of vacuum trucks and other removal methods.
4. Other clean up techniques will be used based on the requirements of the applicable federal, state, and local agencies.

## **Emergency Response Agencies**

### ***Eunice***

Emergency Fire and Medical.....911  
Lea County Oil Conservation Division (OCD)..... (505) 393-6161  
Lea County Environmental Department ..... (505) 397-9224  
Eunice Fire Department ..... (505) 394-2112  
Eunice Police Department ..... (505) 394-2112

### ***State of New Mexico***

New Mexico State Police ..... (505) 392-5588  
New Mexico Environmental Department ..... (505) 827-2855  
NMOCD ..... (505) 476-3440

### ***Federal***

National Response Center ..... (800) 424-8802  
National Poison Control Center..... (800) 942-5969  
EPA Region 6 Emergency Response Center..... (214) 665-6428  
Chemtrec ..... (800) 424-9300

## **Local Spill Containment Contractors**

SMA  
612 E Murray Dr  
Farmington, NM 87401  
(505) 325-5667

CRA  
2135 S. Loop 250 West  
Midland, Texas 79703  
(432) 686-0086  
Emergency Response: (866) 812-9565  
CRA contact: Luke D. Markham

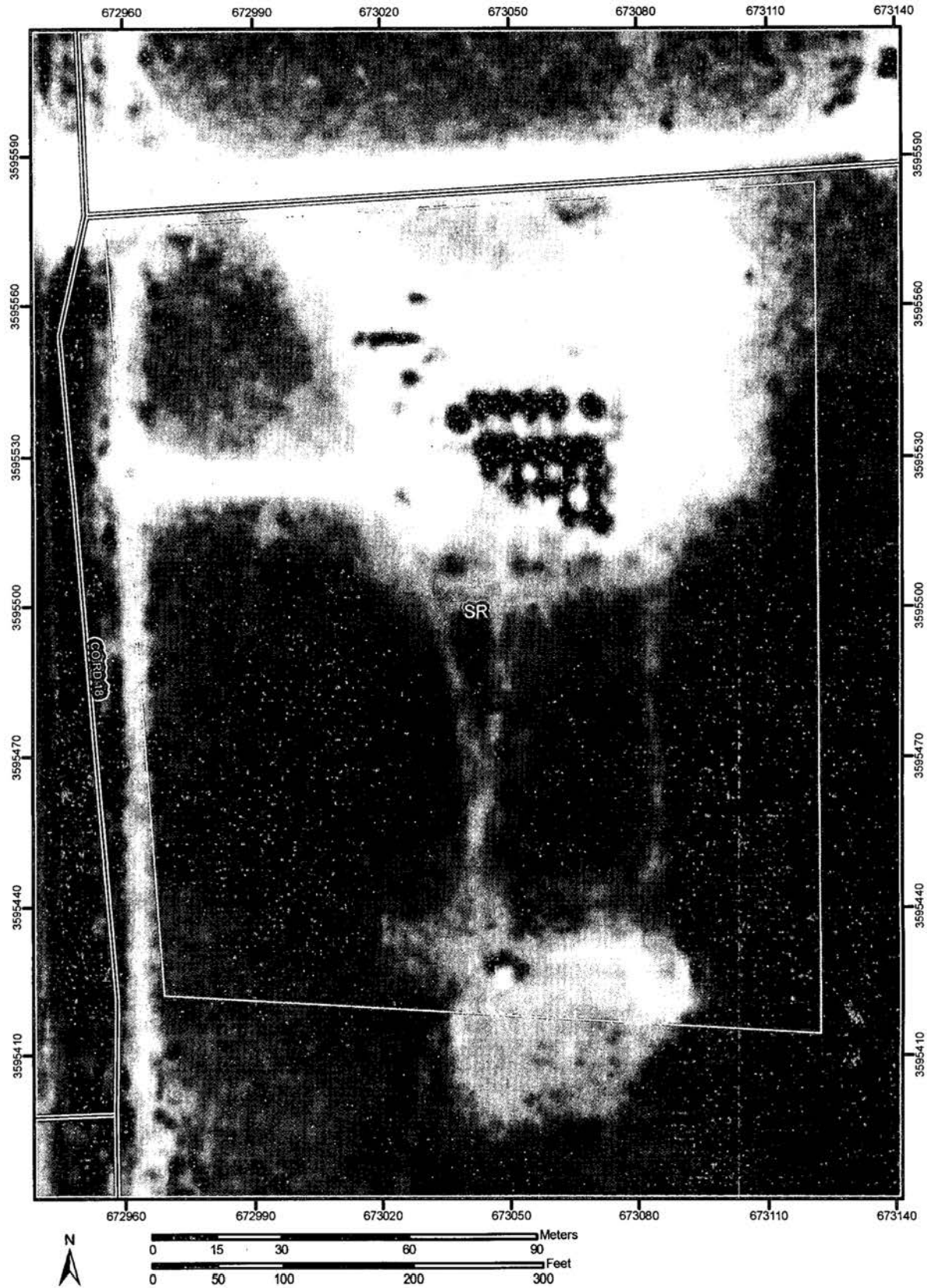
## **Appendix D: Web Soil Survey Map and Description**



**Souder, Miller & Associates**  
Civil/Environmental Scientists & Engineers



Soil Map—Lea County, New Mexico




Natural Resources  
Conservation Service

Web Soil Survey 2.0  
National Cooperative Soil Survey

8/28/2007  
Page 1 of 3

## MAP LEGEND





















### Area of Interest (AOI)




 Area of Interest (AOI)

### Soils




 Soil Map Units

### Special Point Features



-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot
-  Spoil Area
-  Stony Spot

-  Very Stony Spot
-  Wet Spot
-  Other



### Special Line Features

-  Gully
-  Short Steep Slope
-  Other

### Political Features

- Municipalities**
-  Cities
-  Urban Areas

### Water Features

-  Oceans
-  Streams and Canals

### Transportation

-  Rails

### Roads

-  Interstate Highways
-  US Routes
-  State Highways
-  Local Roads
-  Other Roads

## MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
Coordinate System: UTM Zone 13N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lea County, New Mexico  
Survey Area Data: Version 7, Jan 13, 2007

Date(s) aerial images were photographed: 11/1/1997

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Lea County, New Mexico (NM025)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SR	Simona-Upton association	7.4	100.0%
Totals for Area of Interest (AOI)		7.4	100.0%

## Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

## Report—Map Unit Description (Brief, Generated)

### Lea County, New Mexico

**Map Unit:** SR—Simona-Upton association

**Component:** Simona (50%)

The Simona component makes up 50 percent of the map unit. Slopes are 0 to 3 percent. This component is on ridges, tablelands. The parent material consists of calcareous eolian deposits derived from sedimentary rock. Depth to a root restrictive layer, petrocalcic, is 7 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R042XC002NM Shallow Sandy ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 30 percent.

**Component:** Upton (35%)

The Upton component makes up 35 percent of the map unit. Slopes are 0 to 3 percent. This component is on ridges, tablelands. The parent material consists of calcareous eolian deposits derived from sedimentary rock. Depth to a root restrictive layer, petrocalcic, is 7 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R042XC025NM Shallow ecological site. Nonirrigated land capability classification is 7s. Irrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 58 percent.

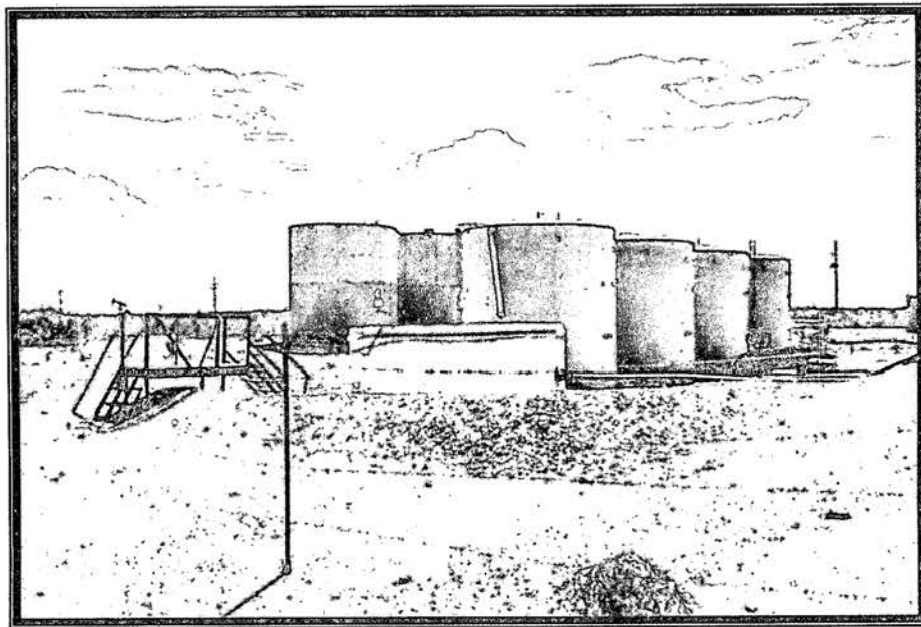
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Survey Area Data: Version 7, Jan 13, 2007

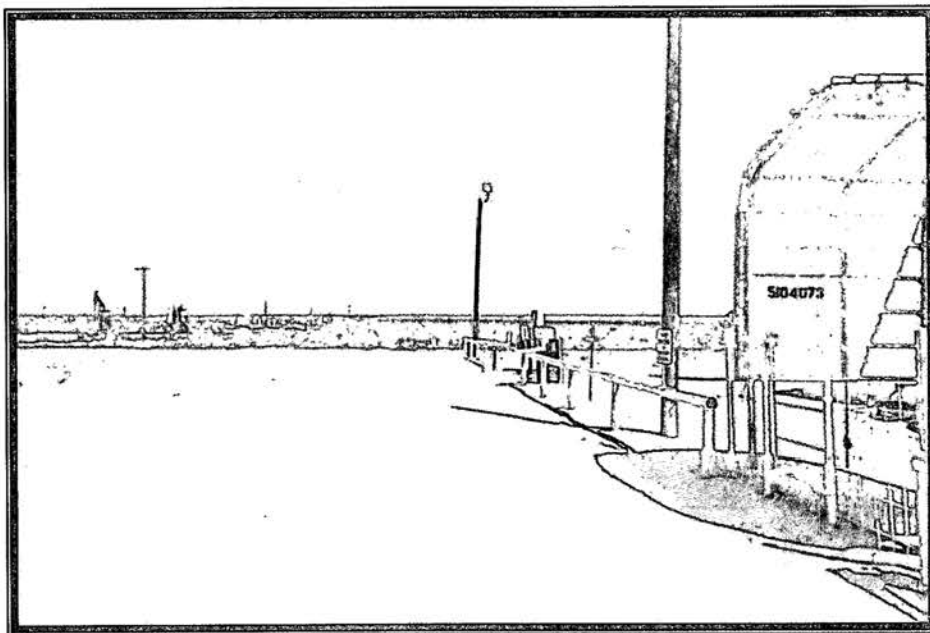
## **Appendix E: Photographs**



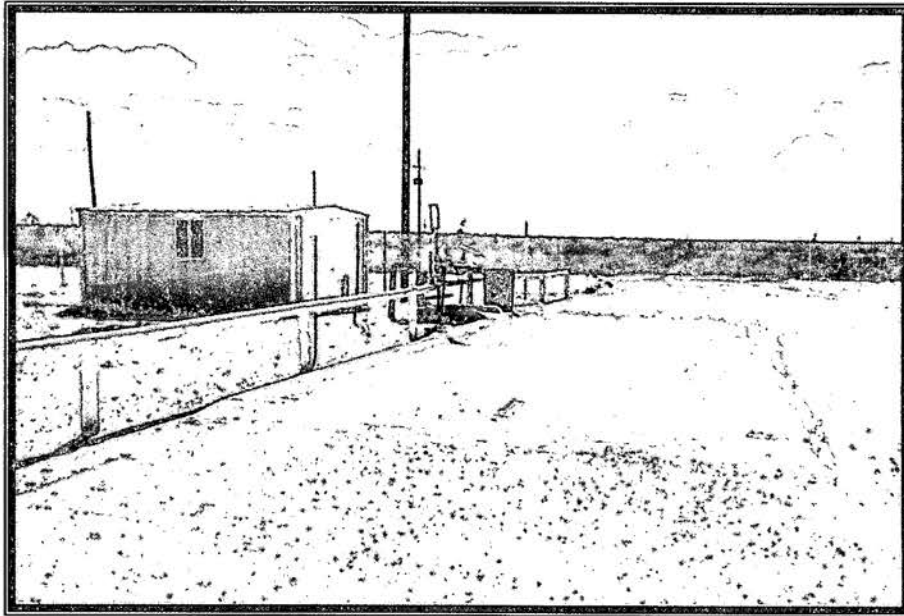
**Souder, Miller & Associates**  
Civil/Environmental Scientists & Engineers



**Above:** Brine water, tank pad drain, and freshwater tanks on the property  
**Below:** Concrete loading docks on the property

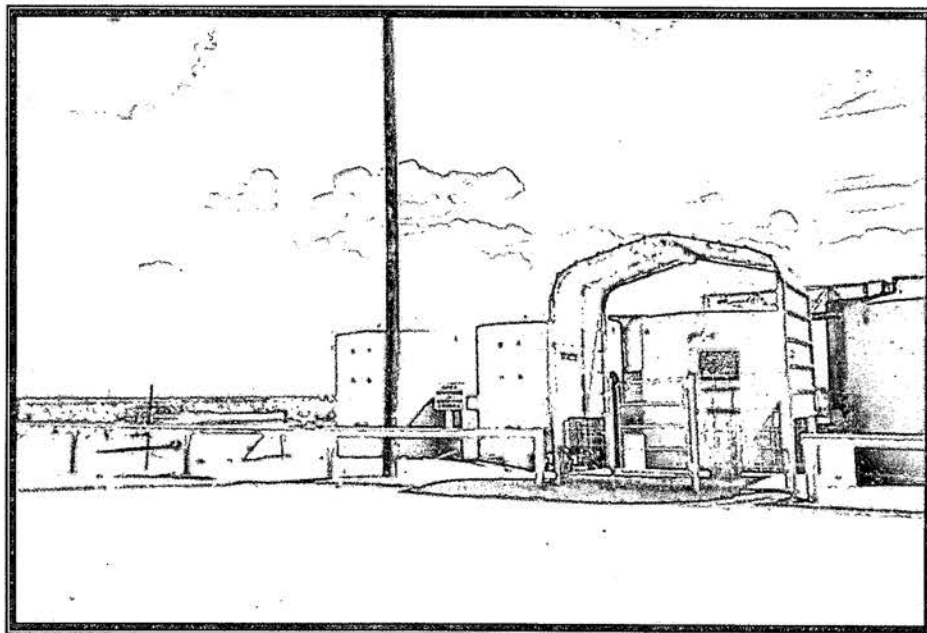






**Above:** Concrete loading pad and freshwater pump house on the property

**Below:** Card reader on the property



**ATTACHMENT TO THE DISCHARGE PLAN BW-028 APPROVAL**  
**Gold Star SWD Ltd. Co. Eunice Brine Station (BW-028)**  
**DISCHARGE PLAN APPROVAL CONDITIONS**  
**July 17, 2001**

1. Payment of Discharge Plan Fees: The \$100.00 filing fee has been received by OCD. The \$1700.00 flat fee shall be submitted upon receipt of this approval. The required flat fee may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the plan, with the first payment due upon receipt of this approval.
2. Commitments: Gold Star SWD Ltd. Co. will abide by all commitments submitted in the discharge plan renewal application dated April 05, 2001 and these conditions for approval.
3. Production Method: Fresh water will be injected down the casing and brine shall be recovered up the tubing. Reverse flow will be allowed only once a month for up to 24 hours for clean out.
4. Maximum Injection Pressure: The maximum operating injection and/or test pressure at the well head will be such that the fracture pressure of the injection formation will not be exceeded. Please provide to OCD by January 31, 2002 (first annual report) the system fracture pressure calculated at the bottom casing shoe, fracture pressure gradient (psi/ft) for the system, and the maximum surface injection pressure that will not cause new fractures or propagate existing fractures.
5. Mechanical Integrity Testing: Gold Star SWD Ltd. Co. will conduct an annual open to formation pressure test by pressuring up the formation with fluids to one and one-half times the normal operating pressure or 300 psig whichever is greater for four hours. However, no operator may exceed surface injection or test pressures that may cause formation fracturing (see item 4 above) or system failures. Systems requiring test pressures less than 300 psig or methods that use testing media other than fluids, i.e. gas, must be approved by OCD prior to testing. Brine supply wells operating with isolation packers will have to pressure test both the cavern formation and casing/tubing annually.  
  
At least once every five years and during well work-overs the cavern formation will be isolated from the casing/tubing annually and the casing pressure tested at 300 psig for 30 minutes. All pressure test must be witnessed by OCD.
6. Production/Injection Volumes/Annual Report: The volumes of fluids injected (fresh water) and produced (brine) will be recorded monthly and submitted to the OCD Santa Fe Office in an annual report due on the thirty-first (31) day of January of each year.

7. Analysis of Injection Fluid and Brine: Provide an analysis of the injection fluid and brine with each annual report. Analysis will be for General Chemistry (Method 40 CFR 136.3) using EPA methods.
8. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums should be stored on their sides with the bungs in place and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets must also be stored on an impermeable pad with curbing.
9. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
10. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new facilities or modifications to existing facilities must place the tank on an impermeable type pad within the berm.
11. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.
12. Labeling: All tanks, drums, and other containers should be clearly labeled to identify their contents and other emergency information necessary if the tank were to rupture, spill, or ignite.
13. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must be tested to demonstrate their mechanical integrity no later than December 31, 2001 and every year from tested date, thereafter. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing. The test results will be submitted to OCD in the annual report.
14. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity no later than December 31, 2001 and every 5 years from tested date, thereafter. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to

all testing. The test results will be submitted to OCD in the first annual report.

15. Class V Wells: No Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be approved for construction and/or operation unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.
16. Well Work Over Operations: OCD approval will be obtained from the Director prior to performing remedial work, pressure test or any other Work over. Approval will be requested on OCD Form C-103 "Sundry Notices and Reports on Wells" (OCD Rule 1103.A.) with appropriate copies sent to the OCD Hobbs District Office.
17. Housekeeping: All systems designed for spill collection/prevention, and leak detection will be inspected daily to ensure proper operation and to prevent overtopping or system failure. All spill collection and/or secondary containment devices will be emptied of fluids within 48 hours of discovery. A record of inspections will be retained on site for a period of five years.
18. Spill Reporting: All spills/releases shall be reported pursuant to OCD Rule 116. and WQCC 1203. to the OCD Hobbs District Office.
19. Waste Disposal: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste determination per 40 CFR Part 261. Any waste stream that is not listed in the discharge plan will be approved by OCD on a case-by-case basis.
20. Transfer of Discharge Plan: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.
21. Closure: The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure plan will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.
22. OCD Inspections: Additional requirements may be placed on the facility based upon results from OCD inspections.

23. Storm Water Plan: Gold Star SWD Ltd. Co. will submit a storm water run-off plan for OCD approval by December 31, 2001.
24. Capacity and Cavity Configuration: A test or method will be conducted to determine the size and configuration of the mined cavity prior to discharge plan renewal (July 18, 2006). The method or testing will be approved by OCD.
25. Certification: **Gold Star SWD Ltd. Co.** by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. **Gold Star SWD Ltd. Co.** further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Conditions accepted by: **Gold Star SWD Ltd. Co.**

Royce Crowell  
Company Representative- print name

Royce Crowell Date 8-16-01  
Company Representative- Sign

Title Mgr.





# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON  
Governor  
Jennifer A. Salisbury  
Cabinet Secretary

July 17, 2001

Lori Wrotenbery  
Director  
Oil Conservation Division

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. 5357 7683**

Royce Crowell  
Gold Star SWD Ltd. Co.  
P.O. Box 1480  
Eunice, New Mexico, 88231

Re: Discharge Plan Renewal  
Eunice Brine Station BW-028  
Lea County, New Mexico

Dear Mr. Crowell:

The groundwater discharge plan renewal for the Eunice Brine Station Well BW-028 operated by Gold Star SWD Ltd. Co. located in NW/4 NW/4 of Section 15, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico **is hereby approved** under the conditions contained in the enclosed attachment. Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 working days of receipt of this letter.**

The original discharge plan was approved on July 19, 1996 by the OCD with an expiration date of July 18, 2001. The discharge plan renewal application dated April 05, 2001 including attachments, submitted pursuant to Section 5101.B.3. of the New Mexico Water Quality Control Commission (WQCC) Regulations also includes all earlier applications and all conditions later placed on those approvals. The discharge plan renewal application was submitted pursuant to Section 5101.B.3. of the New Mexico Water Quality Control Commission (WQCC) Regulations.

The discharge plan is renewed pursuant to Section 5101.A. and 3109.C. Please note Section 3109.G., which provides for possible future amendment of the plan. Please be advised that approval of this plan does not relieve Gold Star SWD Ltd. Co. of liability should operations result in pollution of surface or ground waters, or the environment.

Please be advised that all exposed pits, including lined pits and open top tanks (exceeding 16 feet in diameter) shall be screened, netted, or otherwise rendered nonhazardous to wildlife including migratory birds.

Please note that Section 3104. of the regulations requires that "when a plan has been approved, discharges must be consistent with the terms and conditions of the plan." Pursuant to Section 3107.C., Gold Star SWD Ltd. Co. is required to notify the Director of any facility expansion,

Royce Crowell

July 17, 2001

Page 2

production increase, or process modification that would result in any change in the discharge of water quality or volume.

Pursuant to Section 3109.H.4., this approval is for a period of five years. **This approval will expire July 18, 2006** and an application for renewal should be submitted in ample time before that date. Pursuant to Section 5101.F. of the regulations, if a discharger submits a discharge plan renewal application at least 120 days before the discharge plan expires and is in compliance with the approved plan, then the existing discharge plan will not expire until the application for renewal has been approved or disapproved.

The discharge plan application for the Gold Star SWD Ltd. Co. Eunice Brine Station is subject to the WQCC Regulation 3114. Every billable facility submitting a discharge plan will be assessed a fee equal to the filing fee of \$100.00 plus a flat fee of \$1700.00 for brine stations. The OCD has not received the \$1700.00 flat fee. The flat fee may be paid in a single payment due on the date of the discharge plan approval or in five equal installments over the expected duration of the discharge plan. Installment payments shall be remitted yearly, with the first installment due on the date of the discharge plan approval and subsequent installments due on this date of each calendar year.

**Please make all checks payable to: Water Quality Management Fund  
C/o: Oil Conservation Division  
1220 South Saint Francis Drive  
Santa Fe, New Mexico 87505.**

If you have any questions, please contact Wayne Price of my staff at (505-476-3487). On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,



Roger C. Anderson  
Environmental Bureau Chief  
RCA/lwp

Attachment-1

xc: OCD Hobbs Office

**ATTACHMENT TO THE DISCHARGE PLAN BW-028 APPROVAL**  
**Gold Star SWD Ltd. Co. Eunice Brine Station (BW-028)**  
**DISCHARGE PLAN APPROVAL CONDITIONS**  
**July 17, 2001**

1. Payment of Discharge Plan Fees: The \$100.00 filing fee has been received by OCD. The \$1700.00 flat fee shall be submitted upon receipt of this approval. The required flat fee may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the plan, with the first payment due upon receipt of this approval.
2. Commitments: Gold Star SWD Ltd. Co. will abide by all commitments submitted in the discharge plan renewal application dated April 05, 2001 and these conditions for approval.
3. Production Method: Fresh water will be injected down the casing and brine shall be recovered up the tubing. Reverse flow will be allowed only once a month for up to 24 hours for clean out.
4. Maximum Injection Pressure: The maximum operating injection and/or test pressure at the well head will be such that the fracture pressure of the injection formation will not be exceeded. Please provide to OCD by January 31, 2002 (first annual report) the system fracture pressure calculated at the bottom casing shoe, fracture pressure gradient (psi/ft) for the system, and the maximum surface injection pressure that will not cause new fractures or propagate existing fractures.
5. Mechanical Integrity Testing: Gold Star SWD Ltd. Co. will conduct an annual open to formation pressure test by pressuring up the formation with fluids to one and one-half times the normal operating pressure or 300 psig whichever is greater for four hours. However, no operator may exceed surface injection or test pressures that may cause formation fracturing (see item 4 above) or system failures. Systems requiring test pressures less than 300 psig or methods that use testing media other than fluids, i.e. gas, must be approved by OCD prior to testing. Brine supply wells operating with isolation packers will have to pressure test both the cavern formation and casing/tubing annually.  
  
At least once every five years and during well work-overs the cavern formation will be isolated from the casing/tubing annulus and the casing pressure tested at 300 psig for 30 minutes. All pressure test must be witnessed by OCD.
6. Production/Injection Volumes/Annual Report: The volumes of fluids injected (fresh water) and produced (brine) will be recorded monthly and submitted to the OCD Santa Fe Office in an annual report due on the thirty-first (31) day of January of each year.



7. Analysis of Injection Fluid and Brine: Provide an analysis of the injection fluid and brine with each annual report. Analysis will be for General Chemistry (Method 40 CFR 136.3) using EPA methods.
8. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums should be stored on their sides with the bungs in place and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets must also be stored on an impermeable pad with curbing.
9. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
10. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new facilities or modifications to existing facilities must place the tank on an impermeable type pad within the berm.
11. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.
12. Labeling: All tanks, drums, and other containers should be clearly labeled to identify their contents and other emergency information necessary if the tank were to rupture, spill, or ignite.
13. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must be tested to demonstrate their mechanical integrity no later than December 31, 2001 and every year from tested date, thereafter. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing. The test results will be submitted to OCD in the annual report.
14. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity no later than December 31, 2001 and every 5 years, from tested date, thereafter. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to

all testing. The test results will be submitted to OCD in the first annual report.

15. Class V Wells: No Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be approved for construction and/or operation unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.
16. Well Work Over Operations: OCD approval will be obtained from the Director prior to performing remedial work, pressure test or any other Work over. Approval will be requested on OCD Form C-103 "Sundry Notices and Reports on Wells" (OCD Rule 1103.A.) with appropriate copies sent to the OCD Hobbs District Office.
17. Housekeeping: All systems designed for spill collection/prevention, and leak detection will be inspected daily to ensure proper operation and to prevent overtopping or system failure. All spill collection and/or secondary containment devices will be emptied of fluids within 48 hours of discovery. A record of inspections will be retained on site for a period of five years.
18. Spill Reporting: All spills/releases shall be reported pursuant to OCD Rule 116. and WQCC 1203. to the OCD Hobbs District Office.
19. Waste Disposal: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste determination per 40 CFR Part 261. Any waste stream that is not listed in the discharge plan will be approved by OCD on a case-by-case basis.
20. Transfer of Discharge Plan: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.
21. Closure: The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure plan will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.
22. OCD Inspections: Additional requirements may be placed on the facility based upon results from OCD inspections.

23. Storm Water Plan: Gold Star SWD Ltd. Co. will submit a storm water run-off plan for OCD approval by December 31, 2001.
24. Capacity and Cavity Configuration: A test or method will be conducted to determine the size and configuration of the mined cavity prior to discharge plan renewal (July 18, 2006). The method or testing will be approved by OCD.
25. Certification: **Gold Star SWD Ltd. Co.** by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. **Gold Star SWD Ltd. Co.** further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Conditions accepted by: **Gold Star SWD Ltd. Co.**

\_\_\_\_\_  
Company Representative- print name

\_\_\_\_\_  
Company Representative- Sign

Title\_\_\_\_\_

Mr. Royce Crowell  
July 19, 1996  
Page 3

ATTACHMENT TO THE DISCHARGE PLAN BW-028 APPROVAL  
GOLD STAR SWD LTD. CO.  
EUNICE BRINE STATION  
DISCHARGE PLAN REQUIREMENTS

1. Payment of Discharge Plan Fees: The \$50 filing fee is due upon receipt of this approval. The \$1,380 flat fee shall be submitted upon receipt of this approval. The required flat fee may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the plan, with the first payment due upon receipt of this approval.
2. Gold Star Commitments: Gold Star will abide by all commitments submitted in the discharge plan application dated May 7, 1996.
3. Production Method: Fresh water will be injected down the casing and brine shall be recovered up the tubing. Reverse flow will be allowed only once a month for up to 24 hours for clean out.
4. Maximum Injection Pressure: The maximum operating injection pressure at the well head will be such that the fracture pressure of the injection formation will not be exceeded. Gold Star shall supply and obtain approval for any changes to the approval for the maximum and average injection pressures and injection volumes.
5. Mechanical Integrity Testing: The OCD requires an annual open hole pressure test equal to one and one-half of the normal operating pressure for four hours with ten percent bleed-off allowed. At least once every five years the OCD requires the above mentioned open hole test with zero bleed-off allowed. If zero bleed-off cannot be achieved, the casing will be isolated from the formation and tested to 300 psi for 30 minutes. Prior to commencement of operations and during well workovers, the OCD requires the casing to be isolated from the formation and tested to 300 psi for 30 minutes. The OCD will be notified at least 72 hours prior to all testing so that an OCD representative may witness the test.
6. Capacity and Cavity Configuration: A test will be conducted to determine the size and configuration of the mined cavity prior to discharge plan renewal (July 18, 2001). The method and time of testing will be approved by the OCD prior to performing the test.

7. Production/Injection Volumes: The volumes of fluids injected (fresh water) and produced (brine) will be recorded monthly and submitted to the OCD Santa Fe Office quarterly.
8. Analysis of Injection Fluid and Brine: Provide an analysis of the injection fluid and brine with the first quarterly report. Analysis will be for concentrations of Total Dissolved Solids, Sodium, Calcium, Potassium, Magnesium, Bromide, Carbonate/Bicarbonate, Chloride and Sulfate. Include location and method of sampling.
9. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums should be stored on their sides with the bungs in place and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets must also be stored on an impermeable pad with curbing.
10. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
11. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new facilities or modifications to existing facilities must place the tank on an impermeable type pad within the berm.
12. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.
13. Labeling: All tanks, drums, and other containers should be clearly labeled to identify their contents and other emergency information necessary if the tank were to rupture, spill, or ignite.
14. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks /or sumps.
15. Underground Process/Wastewater Lines: All underground process/wastewater, and brine transfer pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years there after. Permittees may propose various methods for testing such

Mr. Royce Crowell  
July 19, 1996  
Page 5

as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD.

16. Well Workover Operations: OCD approval will be obtained from the Director prior to performing remedial work or any other workover. Approval will be requested on OCD Form C-103 "Sundry Notices and Reports on Wells" (OCD Rule 1103.A.) with appropriate copies sent to the OCD Hobbs District Office.
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18. Spill Reporting: All spills/releases shall be reported pursuant to OCD Rule 116. and WQCC 1203. to the OCD Hobbs District Office.
19. Transfer of Discharge Plan: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.
20. Closure: The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure plan will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.
21. OCD Inspections: Additional requirements may be placed on the facility based upon results from OCD inspections.

22. Conditions accepted by:

Royce Crowell  
Company Representative

7-25-96  
Date

Managing - member  
Title





STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

July 19, 1996

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. Z-765-962-969**

Mr. Royce Crowell  
Gold Star SWD Ltd. Co.  
801 Main  
P.O. Box 1480  
Eunice, New Mexico 88231

**RE: Discharge Plan BW-028  
Gold Star SWD Ltd. Co.  
Eunice Brine Station  
Lea County, New Mexico**

Dear Mr. Crowell:

The groundwater discharge plan application, BW-028, for the Gold Star SWD Ltd. Co. (Gold Star) Eunice Brine Station located in NW/4 NW/4 of Section 15, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico, is hereby approved under the conditions contained in the enclosed attachment. The application consists of the original discharge plan application dated May 7, 1996. Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within five working days of receipt of this letter.**

The discharge plan application was submitted pursuant to Section 5101.B.3. of the New Mexico Water Quality Control Commission (WQCC) Regulations. It is approved pursuant to Section 5101.A. and 3109.C. Please note Section 3109.F., which provides for possible future amendment of the plan. Please be advised that approval of this plan does not relieve Gold Star of liability should operations result in pollution of surface or ground waters, or the environment.

Please be advised that all exposed pits, including lined pits and open top tanks (exceeding 16 feet in diameter) shall be screened, netted, or otherwise rendered nonhazardous to wildlife including migratory birds.

Please note that Section 3104. of the regulations requires that "when a plan has been approved,

Mr. Royce Crowell  
July 19, 1996  
Page 2

discharges must be consistent with the terms and conditions of the plan." Pursuant to Section 3107.C., Gold Star is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

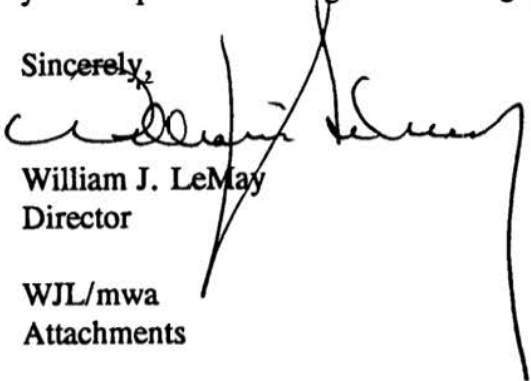
Pursuant to Section 3109.G.4., this approval is for a period of five years. This approval will expire July 18, 2001, and an application for renewal should be submitted in ample time before that date. Note that under Section 5101.G. of the regulations, if a discharger submits a discharge plan renewal application at least 180 days before the discharge plan expires and is in compliance with the approved plan, then the existing discharge plan will not expire until the application for renewal has been approved or disapproved. It should be noted that all discharge plan facilities will be required to submit plans for, or the results of, an underground drainage testing program as a requirement for discharge plan renewal.

The discharge plan application for the Gold Star Eunice Brine Station is subject to the WQCC Regulation 3114. Every billable facility submitting a discharge plan will be assessed a fee equal to the filing fee of \$50 plus a flat fee of \$1,380 for brine stations. The OCD has not received the \$50 filing fee or the \$1,380 flat fee. The \$50 dollar filing fee is due upon receipt of this approval. The flat fee of \$1,380 may be paid in a single payment due on the date of the discharge plan approval or in five equal installments over the expected duration of the discharge plan. Installment payments shall be remitted yearly, with the first installment due on the date of the discharge plan approval and subsequent installments due on this date of each calendar year.

Please make all checks payable to: NMED-Water Quality Management and addressed to the OCD Santa Fe Office.

On behalf of the staff of the Oil Conservation Division, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,



William J. LeMay  
Director

WJL/mwa  
Attachments

xc: OCD Hobbs Office



ATTACHMENT TO THE DISCHARGE PLAN BW-028 APPROVAL  
GOLD STAR SWD LTD. CO.  
EUNICE BRINE STATION  
DISCHARGE PLAN REQUIREMENTS

1. Payment of Discharge Plan Fees: The \$50 filing fee is due upon receipt of this approval. The \$1,380 flat fee shall be submitted upon receipt of this approval. The required flat fee may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the plan, with the first payment due upon receipt of this approval.
2. Gold Star Commitments: Gold Star will abide by all commitments submitted in the discharge plan application dated May 7, 1996.
3. Production Method: Fresh water will be injected down the casing and brine shall be recovered up the tubing. Reverse flow will be allowed only once a month for up to 24 hours for clean out.
4. Maximum Injection Pressure: The maximum operating injection pressure at the well head will be such that the fracture pressure of the injection formation will not be exceeded. Gold Star shall supply and obtain approval for any changes to the approval for the maximum and average injection pressures and injection volumes.
5. Mechanical Integrity Testing: The OCD requires an annual open hole pressure test equal to one and one-half of the normal operating pressure for four hours with ten percent bleed-off allowed. At least once every five years the OCD requires the above mentioned open hole test with zero bleed-off allowed. If zero bleed-off cannot be achieved, the casing will be isolated from the formation and tested to 300 psi for 30 minutes. Prior to commencement of operations and during well workovers, the OCD requires the casing to be isolated from the formation and tested to 300 psi for 30 minutes. The OCD will be notified at least 72 hours prior to all testing so that an OCD representative may witness the test.
6. Capacity and Cavity Configuration: A test will be conducted to determine the size and configuration of the mined cavity prior to discharge plan renewal (July 18, 2001). The method and time of testing will be approved by the OCD prior to performing the test.

Mr. Royce Crowell

July 19, 1996

Page 4

7. Production/Injection Volumes: The volumes of fluids injected (fresh water) and produced (brine) will be recorded monthly and submitted to the OCD Santa Fe Office quarterly.
8. Analysis of Injection Fluid and Brine: Provide an analysis of the injection fluid and brine with the first quarterly report. Analysis will be for concentrations of Total Dissolved Solids, Sodium, Calcium, Potassium, Magnesium, Bromide, Carbonate/Bicarbonate, Chloride and Sulfate. Include location and method of sampling.
9. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums should be stored on their sides with the bungs in place and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets must also be stored on an impermeable pad with curbing.
10. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
11. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new facilities or modifications to existing facilities must place the tank on an impermeable type pad within the berm.
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Mr. Royce Crowell  
July 19, 1996  
Page 5

as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD.


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18. Spill Reporting: All spills/releases shall be reported pursuant to OCD Rule 116. and WQCC 1203. to the OCD Hobbs District Office.
19. Transfer of Discharge Plan: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.
20. Closure: The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure plan will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.
21. OCD Inspections: Additional requirements may be placed on the facility based upon results from OCD inspections.
22. Conditions accepted by:

\_\_\_\_\_  
Company Representative

\_\_\_\_\_  
Date

PS Form 3800, March 1993

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Street and No.	
P.O., State and ZIP Code	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

  
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(See Reverse)

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BW - 28

**GENERAL  
CORRESPONDENCE**

**YEAR(S):**

2006 → 1996

**Price, Wayne, EMNRD**

---

**From:** Price, Wayne, EMNRD  
**Sent:** Tuesday, May 23, 2006 8:46 AM  
**To:** Dan Gibson (dgibson@keyenergy.com.)  
**Cc:** Sheeley, Paul, EMNRD; Johnson, Larry, EMNRD  
**Subject:** Key State S Brine station BW-28

Dear Mr. Gibson:

OCD is in receipt of the Closure Compliance Report dated May 10, 2006. OCD hereby approves of the report and does not require any further action at this time.

Please be advised that NMOCD approval of this plan does not relieve the owner/operator of Responsibility should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve the owner/operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Wayne Price  
Oil Conservation Div.  
1220 S. Saint Francis  
Santa Fe New Mexico 87505

phone: 505-476-3490  
fax: 505-476-3462

5/23/2006



**Key Energy Services, Inc.**

6 Desta Drive

Suite 4400

Midland, TX 79705

Tel: 432.620.0300

Fax: 432.571.7532

www.keyenergy.com

2006 MAY 15 PM 1 17

May 11, 2006

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

Re: State S Brine Station

Dear Wayne:

Enclosed for your review you will find the Closure Compliance Report for the State S Brine Station.

Please let me know if you have any questions or comments.

Sincerely,

Daniel K. Gibson, P.G.  
Corporate Environmental Manager

Enclosure

cc: Mr. Paul Sheeley  
New Mexico Oil Conservation District  
1625 N. French Drive  
Hobbs, New Mexico 88240

## **Storm Water Pollution Prevention Plan**

Key Energy Services, Inc.  
Brine & Water Station  
2.5 Miles North of Eunice on Loop 18  
Lea County, New Mexico

December 20, 2001

**PREPARED FOR**

Key Energy Services, Inc.



**VISION**

## **Storm Water Pollution Prevention Plan**

Key Energy Services, Inc.  
Brine & Water Station  
2.5 miles North of Eunice on Loop 18  
Lea County, New Mexico



**VISION**  
December 20, 2001

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VISION TECHNOLOGY, INC.

**Storm Water Pollution  
Prevention Plan**

Key Energy Services, Inc.  
Brine & Water Station  
2.5 miles North of Eunice on  
Loop 18  
Eunice, New Mexico

Prepared for:  
Key Energy Services, Inc.

---

Kevin Parish  
VP Operation

Prepared by:  
VISION Technology, Inc.  
P.O. Box 5897  
Hobbs, New Mexico 88240  
Tel 505 391 0229  
Fax 505 391 0445

Our Ref.:  
KEYEB&WSWPPP001

Date:  
December 20, 2001

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## **PLAN CERTIFICATION**

Key Energy Services, Inc.

December 21, 2001

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

---

Sam Blevins

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- 3 List of Significant Spills and Leaks
- 4 Pollutant Source Identification, BMP Identification and Implementation

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- D SWPPP Records

**Storm Water Pollution  
Prevention Plan**

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Facility Information

**Name of Facility and Location**

Key Energy Services, Inc.  
Brine & Water Station  
2.5 miles north of Eunice on north loop 18 (county road 207)  
Lea County, New Mexico  
Telephone: (505) 394-2581

**HS&E Manager**

Bill Sonnomaker

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**1.0 Introduction**

**1.1 Goals of the Storm Water Pollution Prevention Plan**

On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published regulations to control storm water discharges under the National Pollution Discharge Elimination System (NPDES). Under these regulations, industrial facilities are to be issued a storm water discharge permit with requirements specifically tailored towards control of storm water contamination. The storm water regulations presented three permit application options for storm water discharges associated with industrial activity. The first was to submit an individual application; the second option was to participate in a group application; and the third option was to file a Notice of Intent (NOI) to be covered in accordance with the requirements of a multi-sector general permit (MSGP). Key Energy Services, Inc. (Key Energy) located in Eunice, New Mexico, elected to submit a NOI to be covered under the MSGP.

Industrial facilities that discharge under authority of a MSGP are required to develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The pollution prevention plan approach, developed by the USEPA, gives facilities flexibility to establish a site-specific storm water management program to meet Best Available Technology/Best Control Technology (BAT/BCT) standards required by the Clean Water Act (CWA) instead of strictly relying on the imposition of numerical discharge limitations.

The pollution prevention approach adopted by USEPA focuses on two major objectives:

- To identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from the facility.
- To describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from the facility.

The process of developing a SWPPP involves the following steps:

- Formation of a team of qualified personnel who will be responsible for preparing the plan and assisting the facility manager in its implementation.
- Assessment of appropriate management practices and controls.

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- Implementation of selected management practices and controls.
- Periodic evaluation of the ability of the plan to prevent storm water pollution and to comply with the terms of the NPDES MSGP.

In developing a SWPPP, the USEPA requires implementation of Best Management Practices (BMPs) to eliminate, minimize, and control potential sources of storm water pollution. BMPs may take the form of a process, activity, or physical structure. They are defined as structural devices or nonstructural practices that are designed to prevent pollutants from entering into storm water flows, to direct the flow of storm water, or to treat polluted storm water flows. Some BMPs are simple and can be put in place immediately, while others are more complicated and require extensive planning or space. The USEPA classifies BMPs into two categories:

- Baseline BMPs
- Advanced BMPs

The baseline BMPs are inexpensive, easily implemented controls to prevent storm water pollution. They include general housekeeping, preventive maintenance, spill prevention and control, inspections, employee training, sediment and erosion control, and management of runoff. An advanced BMP would require structural controls.

The advanced BMP category is further subdivided into activity-specific and site specific BMPs. Activity-Specific BMPs relate to practices associated with minimizing pollutants generated from certain activities such as fueling, vehicle washing and painting. An example of activity-specific BMPs would be overhead cover, spill kits and overfill prevention equipment for fueling operations. An example of a site-specific BMP is grading an area to direct storm water away from industrial activities. At a minimum, facilities are expected to implement the entire baseline BMPs. Additionally, in developing the SWPPP, each facility must consider advanced BMPs, evaluate them for their potential effectiveness, and implement the appropriate ones.

This SWPPP was prepared in accordance with the USEPA's guidance document entitled *Storm Water Management For Industrial Activities Developing Pollution Prevention Plans and Best Management Practices*, Office of Water, EPA 832-R-92-006, September 1992.

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As part of the SWPPP, inspections and routine maintenance procedures will be carried out in an effort to prevent spills/releases of materials at this facility. This plan should be compatible with other plans written for the site so as to prevent any conflicting statements, procedures, and/or practices during implementation of this and other plans. The Key Energy Brine & Water Station has a SPCC Plan, HAZCOM Program, and a Material Safety Data Sheet (MSDS) training program.

The Storm Water Pollution Prevention Team is responsible for development and implementation of the SWPPP. The team members are listed with titles, phone numbers, and responsibilities as shown on Worksheet #1 (below).

4



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**3.0 Facility Assessment**

**3.1 Description**

The Key Energy Brine & Water Station is located on the east side of North Loop 18 2.5 miles North of Eunice, New Mexico (Figure 1). Entrance into the facility is obtained from loop 18 (see Figure 2). The facility is approximately 3 acres in size and is utilized for (1) Loading company equipment with brine & fresh water; (2) Storage of fresh water and brine water; (3) Brine well and tank batteries.

The Key Energy Brine & Water Station provides brine & fresh water for oil and gas field services. The SIC Code for the facility is 1389.

Brine water is produced at the site by pumping fresh water down the casing of the brine well and circulating brine water up the tubing. The brine is stored in 5-500 bbl tanks. Brine water is hauled offsite to oil and gas well drilling locations.

Several empty tanks are located on the south side of the location.

The facility is outside the city limits of the City of Eunice, New Mexico. The facilities has no wastewater discharges.

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**3.2 Facility Drainage**

Site drainage routes are shown in Figure 2. The storm water at the facility is a gravity system that drains to the southeast, and discharges onto ranch land located east and south of the site.

**3.3 Inventory and Description of Exposed Materials**

An inventory and description of exposed materials is presented in Worksheet #2. This worksheet should be updated periodically so that it can be properly used to assess sources and control measures of storm water contamination.

**3.4 Significant Spills and Leaks**

There have been no known significant spills of hazardous substances or toxic pollutants in the past 3 years from the date of this plan. A significant spill is defined by the USEPA as releases, which occur within a 24-hour period of hazardous substances in excess of reportable quantities under Section 311 of the CWA and Section 302 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Reportable quantities can be found listed in 40 CFR Parts 117 and 302. In the event of a significant spill or leak, notify the National Response Center at (800) 424-8802 and the OCD (505) 393 - 6161 as soon as possible. Also Worksheet #3 should be updated at that time.

STORM WATER POLLUTION PREVENTION PLAN				WORKSHEET #2				
MATERIAL INVENTORY (Potential Pollutant Sources)				Facility Name: Key Energy Brine & Water Station				
				Completed By: Kevin Parish				
				Title: VP Vision Technology, Inc.				
				Date of Last Revision: December 20, 2001				
MATERIAL/ ACTIVITY	LOCATION	AST/UST	QUANTITY (GAL) USED	QUANTITY (GAL) STORED	QUANTITY (GAL) PRODUCES	QUANTITY EXPOSED IN LAST 3 YEARS	LIKELIHOOD OF CONTACT WITH STORM WATER. IF YES DESCRIBE REASON	PAST SIGNIFICANT SPILL/LEAK Yes/No
1) Brine Water	5 – 500 bbl tanks	AST	Varies	Approx. 2500 bbls	750 to 1200 daily	None Known	Yes: if tanks over flow in a heavy rain	No (none known)
2) Loading Pads	North side of location	-----	-----	-----	-----	None Known	Yes; if leak is off the loading pad	Yes, some staining around pad
3) Brine Well	South side of location	-----	-----	-----	-----	None Known	Yes, if flow line failed	No (none known)
4) 6 – 500 bbl AST (water tanks)	South of good tanks	AST	-----	500 bbl (max)	-----	None Known	No: AST's were used for fresh water only	No (none known)

AST = Aboveground Storage Tank  
UST = Underground Storage Tank

STORM WATER POLLUTION PREVENTION PLAN					WORKSHEET #2			
MATERIAL INVENTORY (Potential Pollutant Sources)					Facility Name: Key Energy Brine & Water Station			
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					Date of Last Revision: December 20, 2001			
MATERIAL/ ACTIVITY	LOCATION	AST/UST	QUANTITY (GAL) USED	QUANTITY (GAL) STORED	QUANTITY (GAL) PRODUCES	QUANTITY EXPOSED IN LAST 3 YEARS	LIKELIHOOD OF CONTACT WITH STORM WATER. IF YES DESCRIBE REASON	PAST SIGNIFICANT SPILL/LEAK Yes/No

AST = Aboveground Storage Tank  
UST = Underground Storage Tank

**Storm Water Pollution  
Prevention Plan**

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STORM WATER POLLUTION PREVENTION PLAN						WORKSHEET #3				
LIST OF SIGNIFICANT SPILLS AND LEAKS						Facility Name: Key Energy Eunice Brine and Water Station				
						Completed By: Kevin Parish				
						Title: VP Operations, Vision Technology, Inc.				
						Date of Last Revision: December 20, 2001				
<b>Direction:</b> Record below all significant spills and significant leaks of toxic or hazardous pollutants which have occurred at the facility in the last three years prior to the effective date of the permit (this includes, but not limited to, releases of oil or hazardous substances in excess of reportable quantities).										
1 <sup>st</sup> Year Prior				Description	Response Procedures	Exposed to Storm Water				Preventative Measures
Date	Spill	Leak	Location	Type of Material	Quantity	Source, if Known	Reason	Amt. Matl. Recovered	Yes/ No/NA	
N/A										
2 <sup>nd</sup> Year Prior				Description	Response Procedures	Exposed to Storm Water				Preventative Measures
Date	Spill	Leak	Location	Type of Material	Quantity	Source, if Known	Reason	Amt. Matl. Recovered	Yes/ No/NA	
N/A										
3 <sup>rd</sup> Year Prior				Description	Response Procedures	Exposed to Storm Water				Preventative Measures
Date	Spill	Leak	Location	Type of Material	Quantity	Source, if Known	Reason	Amt. Matl. Recovered	Yes/ No/NA	
N/A										

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**3.5 Summary of Potential Pollutant Sources and Risks**

Potential pollutant sources and risks of contaminating storm water runoff can be summarized as follows:

- **Brine Water** – 5-500 bbl fiberglass tanks of brine are present inside a containment wall. In a heavy rain if the containment fills with storm water and lightning hits a tank the overflow could potential risk for polluting storm water.
- **Brine Well** – the flow lines from the well could crack and release brine water on the ground. This could poses a potential risk for polluting storm water.
- **ASTs** – Most of the ASTs at the site are currently empty or hold only fresh water according to Sam Blevins. The empty and water ASTs do not have secondary containment. These ASTs currently do not pose a potential risk for polluting storm water because they are empty or only hold fresh water. If in the future, petroleum/brine products are placed into one or more of these ASTs, overflows, spills, or potential leaks from the ASTs without secondary containment would pose a potential risk for polluting storm water.

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**4.0 Storm Water Management**

**4.1 Baseline BMPs**

Baseline BMPs are practices that are inexpensive, relatively simple, and applicable to a wide-variety of industries and activities. The BMPs identified in the NPDES MSGP Sector I for Oil and Gas Extraction facilities were considered for their appropriateness and effectiveness in preventing storm water pollution at the Key Energy Brine & Water Station. The following sections highlight those BMPs selected from the NPDES NISGP that are already in place or expected to be implemented at the facility. Key Energy employees should be actively involved in the implementation of these measures.

**4.1.1 Good Housekeeping**

Good housekeeping practices are designed to maintain a clean and orderly work environment. Often the most effective first step towards preventing pollution in storm water from sites simply involves using good common sense to improve the facility's basic housekeeping methods. Poor housekeeping can result in more waste being generated than necessary and greater potential for storm water contamination. A clean orderly work area reduces the possibility of accidental spills caused by the mishandling of chemicals and equipment and should reduce safety hazards to personnel. Well maintained material and brine storage areas will reduce the possibility of storm water contact with pollutants. The good housekeeping BMPs in existence at the Key Energy Brine & Water Station include the following elements:

- Loading on cement pads with overflow drains.
- Keeping trash dumpsters closed.
- Identifying all substances present in the facility and obtaining the Material Safety Data Sheet (MSDS) for each.
- Properly labeling storage tanks.

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**4.1.2 Preventive Maintenance**

The effective preventive maintenance program for Key Energy Brine & Water Station includes the following elements:

- Identifying equipment and facility areas that should be inspected and inspect those identified.
- Adjusting, repairing, or replacing equipment in an appropriate and timely manner.
- Maintaining complete records of inspections and equipment.
- Keeping sump tanks empty at all times.
- Keeping all berms in good condition and free of water and trash.

Equipment which requires inspections and preventive maintenance at the Key Energy Brine & Water Station includes the loading pads, brine well, above and belowground lines, berms, and all tanks. These areas will be examined for leaks, overflows, corrosion, or other deterioration or noncontainment.

**4.1.3 Comprehensive Visual Inspections of Facility**

Visual inspections should be performed for evidence of, or the potential for, conditions, which may result in contamination of storm water runoff with pollutants from the facility. It is the practice of Key Energy employees to routinely look for evidence of spills/leaks throughout the facility. Spills/leaks identified are promptly addressed. A checklist and schedule for routine inspections are provided in Appendix A and should be completed each time an inspection is conducted. Inspections performed at the Key Energy facility include the following:

- Weekly inspections of the Loading pad area to ensure the pads are in good condition and drains are free of obstructions.
- Weekly inspections to ensure all empty tanks are free of liquids.
- Weekly inspections to ensure the containments are in good condition, and free of water, trash or contaminants.
- Weekly inspections of any ASTs that contain fluids, and associated containment areas for leaks or structural damage on operational days.



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- Weekly inspection of all berms to insure they are in good condition and free of erosion.

Facility personnel are also required to conduct, at a minimum, quarterly visual inspections of BMPs including:

- Assessment of the integrity of any storm water control structures such as culverts and berms.
- Visual inspections of storage areas, maintenance areas, and aboveground storage containers. These inspections must be during daylight hours at least once in each of the following periods.
- January through March
- April through June
- July through September
- October through December

Records of inspections will be maintained in Appendix D as part of this plan.

Inspection records should note when the inspections were performed, who conducted the inspection, what areas were inspected, what problems were identified, and steps taken to correct any problems. All routine inspection forms will be retained for at least 1 year after coverage under the NPDES MSGP terminates.

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**4.1.4 Spill Prevention and Response**

The Key Energy Brine & Water Station does have a SPCC plan in existence. To prevent or minimize storm water contamination at material management and storage areas, and from equipment or container failures, the following ESOPs will be implemented. Spill prevention and response procedures, which address potential sources of leaks or spills, are as follows:

- Containing and cleaning up leaks and spills as soon as possible. If malfunctioning equipment is responsible for the spill or leak, repairs are conducted as soon as possible.
- Clean-up procedures include use of dry absorbents. An adequate supply of dry absorbent materials shall be maintained on-site in various areas where petroleum products are used. Used absorbents are properly disposed.
- Drums and ASTs containing liquid chemicals, including oil and lubricants, are stored in closed, segregated, labeled containers.
- Drums and ASTs located outside of buildings and that contain fluids are placed within sufficiently impervious secondary containment areas. The secondary containment areas shall be constructed of steel or reinforced concrete with a secondary containment capacity equal to or greater than the maximum capacity of the largest container in that containment area. The base of the secondary containment structures may contain drain valves to allow drainage of clean rainwater from the secondary containment area. The drain valves shall be closed at all times except when draining clean rainwater from the secondary containment area.

**4.1.5 Sediment and Erosion Control**

Sediment and erosion were not a problem during the facility assessment. However, if routine inspections reveal any sign of soil erosion, appropriate measures, such as planting vegetation or laying of caliche gravel, will be taken. The SWPPP would then be revised accordingly to incorporate these actions into the planned BMPs.

**4.1.6 Management of Runoff**

Runoff did not appear to be a problem during the facility assessment.

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If routine inspections reveal the need for further action to manage runoff, appropriate measures, such as installing curbing, berms, or other engineering controls, will be taken. The SWPPP would then be revised accordingly to incorporate these measures into the planned BMPs.

**4.2 Activity-Specific BMPs**

The BMPs that are specifically appropriate for this facility. The following main areas have been identified as potentially significant sources of storm water pollutants that require activity-specific BMPs at the Key Energy Brine & Water Station.

**4.2.1 Liquid Storage in Aboveground Tanks and Containers**

Materials spilled, leaked, or lost from ASTs, 55-gallon drums, and other containers may accumulate in soils or on other surfaces and be carried by rainfall runoff. The facility has adopted appropriate BMPs to minimize such impacts for non-empty tanks and containers, including:

- Comply with applicable State and Federal laws.
- Train employees properly.
- Install storage tank overfill protection systems, if deemed necessary.
- Install secondary containment capable of containing entire contents.
- Inspect tanks and equipment routinely.

**5.0 Plan Implementation**

Implementation of the SWPPP for the Key Energy Brine & Water Station involves three steps:

- Developing a schedule for implementation.
- Assigning specific individuals with the responsibility for implementing aspects of the plan and/or monitoring implementation.

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- Ensuring that management approves of the implementation schedule and strategy and schedule regular times for reporting progress to management.

Worksheet #4 provides an example of how BMPs can be outlined with a description of the actions required for implementation dates for each action, persons responsible for each action, and other special requirements. The scheduled completion dates and other information should be completed by facility personnel.

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STORM WATER POLLUTION PREVENTION PLAN			WORKSHEET #4	
POLLUTANT SOURCE IDENTIFICATION BMP Identification and Implementation			Facility Name: Key Energy Eunice Brine and Water Station	
			Completed By: Kevin Parish	
			Title: VP Vision Technology, Inc.	
			Date of Last Revision: December 20, 2001	
BMPs	Description of Action(s) Required for Implementation	Scheduled Completion Date(s) for Required Action	Person Responsible for Implementation	Additional Requirements/Notes
Good Housekeeping	<ul style="list-style-type: none"> <li>Keep spills and leaks picked up.</li> <li>Keep trash dumpsters lids closed.</li> <li>Identifying all chemical substances present in the facility and obtaining the MSDS for each.</li> <li>Properly labeling storage drums and tanks.</li> <li>Sweeping paved areas routinely.</li> </ul>	In-Place	Eddy Fabela	
		In-Place	Eddy Fabela	
		In-Place	Jerry Nessmith	
		In-Place	Sam Blevins	
		In-Place	James Woodring	
Preventive Maintenance	<ul style="list-style-type: none"> <li>Identifying equipment, systems, and facility areas that should be inspected and inspect those identified.</li> <li>Adjusting, repairing, or replacing equipment in an appropriate and timely manner.</li> <li>Maintaining complete record of inspection and equipment.</li> <li>Keep pads free of spills and drains open.</li> <li>Keeping sumps free of liquid.</li> </ul>	In-Place	Sam Blevins & James Woodring	
		In-Place	Sam Blevins & James Woodring	
		In-Place	Sam Blevins & James Woodring	
		In-Place	Eddy Fabela	
		In-Place	Eddy Fabela	

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STORM WATER POLLUTION PREVENTION PLAN			WORKSHEET #4	
POLLUTANT SOURCE IDENTIFICATION BMP Identification and Implementation			Facility Name: Key Energy Eunice Brine and Water Station	
			Completed By: Kevin Parish	
			Title: VP Vision Technology, Inc.	
			Date of Last Revision: December 20, 2001	
BMPs	Description of Action(s) Required for Implementation	Scheduled Completion Date(s) for Required Action	Person Responsible for Implementation	Additional Requirements/Notes
Visual Inspection	<ul style="list-style-type: none"> <li>Weekly inspections of the sump area to ensure they are in good condition.</li> <li>Weekly inspections to ensure all empty ASTs are free of liquids.</li> <li>Weekly inspections of any ASTs and 55-gallon drums that contain fluids, and associated containment area for leaks or structural damage.</li> </ul>	In-Place	Sam Blevins	
		In-Place	Sam Blevins	
		In-Place	Sam Blevins	
Spill Prevention and Response	<ul style="list-style-type: none"> <li>Containing and cleanup of leaks and spills.</li> <li>Weekly inspections of AST and drum storage secondary containment areas.</li> </ul>	In-Place	James Woodring	
		In-Place	Sam Blevins	

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STORM WATER POLLUTION PREVENTION PLAN			WORKSHEET #4	
POLLUTANT SOURCE IDENTIFICATION <i>BMP Identification and Implementation</i>			Facility Name: Key Energy Eunice Brine and Water Station	
			Completed By: Kevin Parish	
			Title: VP Vision Technology, Inc.	
			Date of Last Revision: December 20, 2001	
BMPs	Description of Action(s) Required for Implementation	Scheduled Completion Date(s) for Required Action	Person Responsible for Implementation	Additional Requirements/Notes
Containment area around the used motor oil and filters	<ul style="list-style-type: none"> <li>Keep all trash, spills and water cleaned out of the containment areas.</li> </ul>		James Woodring	The containment area should be kept free of trash, spills and water at all times. This will prevent contaminant overflowing if storm water is collected in the containment area.
Liquid Storage in ASTs and Containers	<ul style="list-style-type: none"> <li>Comply with applicable State and Federal laws.</li> <li>Train employees properly.</li> <li>Inspect non-empty ASTs and containers routinely.</li> </ul>	In-Place  In-Place	Sam Blevins Ernest Salcido Sam Blevins	



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**6.0 Employee Training**

The employee training program must inform personnel at all levels of responsibility of the components and goals of the SWPPP. Training will address each component of the plan including how and why tasks are to be implemented. Topics will include, at a minimum, the following:

- Storm Water Pollution Prevention.
- Spill Prevention and Response.
- Good Housekeeping Practices.
- Preventative Maintenance Practices.

Employees will receive initial training and refreshers on at least an annual basis.

**7.0 SWPPP Evaluation and Monitoring Requirements**

**7.1 Annual Site Inspection/BMP Evaluation**

Qualified personnel must conduct site compliance evaluations at least once a year. Qualified personnel include those employees familiar with all facility industrial operations and SWPPP goals and requirements. These inspectors should be able to make necessary management decisions or have direct access to management. As part of the compliance evaluations, the inspectors are required to:

- Confirm the accuracy of the description of potential pollution sources contained in the plan. Identify any changes in potential pollution sources.
- Evaluate the effectiveness of measures identified in this plan to reduce pollutant loading and whether additional measures are needed.
- Assess compliance with the terms and conditions of this plan.
- Revise the plan (as needed) within 4 weeks of inspection.
- Complete Report Form for Annual Compliance Inspection (Appendix B) summarizing inspection results and follow up actions, the date of inspection and personnel who conducted the inspection.



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- Document all incidents of noncompliance. Where there are no incidents of noncompliance, the inspection report must contain a certification that the facility is in compliance with the plan.
- Sign the report and keep it with all other completed site inspection forms related to this SWPPP.
- Evaluation reports must be retained for at least 3 years after evaluation.

**7.2 Storm Water Discharge Monitoring Requirements**

Permittees are not required to conduct monitoring under Sector I - Oil and Gas Extraction Facilities. Unless a spill occurred or storm water has come in contact with pollutants.

**7.3 Recordkeeping and Reporting**

Incidents, such as spills or other discharges, along with other information describing the quality and quantity of storm water discharges must be recorded. Inspections and maintenance activities shall be documented and kept with the plan. Records must be maintained for 1 year after the permit expires.

**7.3.1 Spills and Leaks**

For each spill or leak, the permittee should record the following:

- a. Facility name and location, date, time, and cause and type of incident.
- b. Name and telephone number of reporter.
- c. Name and quantity of materials involved.
- d. Response procedures.
- e. Name of person cleaning up the spill.
- f. Extent of any injuries.
- g. Hazards to human health and the environment off-site.
- h. Steps taken to prevent recurrence of similar spills or leaks.

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The permittee should retain the records of any spills or leaks for a period of 3 years. The HS&E Manager who is responsible for reporting the spill to the appropriate agencies and shall keep these records on-site.

The HS&E Manager is also responsible for investigating each harmful petroleum spill and implementing steps to prevent a reoccurrence.

**7.3.2 Inspections and Maintenance**

Inspections records should note the following:

- a. Facility name and location, time, and date of inspection.
- b. Name(s) of the person(s) who conducted the inspection.
- c. Area inspected.
- d. Problems identified.
- e. Steps taken to correct any problems.

All routine inspection forms will be retained for at least 1 year after coverage under the permit terminates. Records of inspections will be maintained in Appendix D as part of this plan.

**7.4 Plan Review and Revisions**

The SWPPP must be amended whenever there is a change in design, construction, operation, or maintenance, which may impact the potential for pollutant to be discharged or if the SWPPP proves to be ineffective in controlling the discharge of pollutants.



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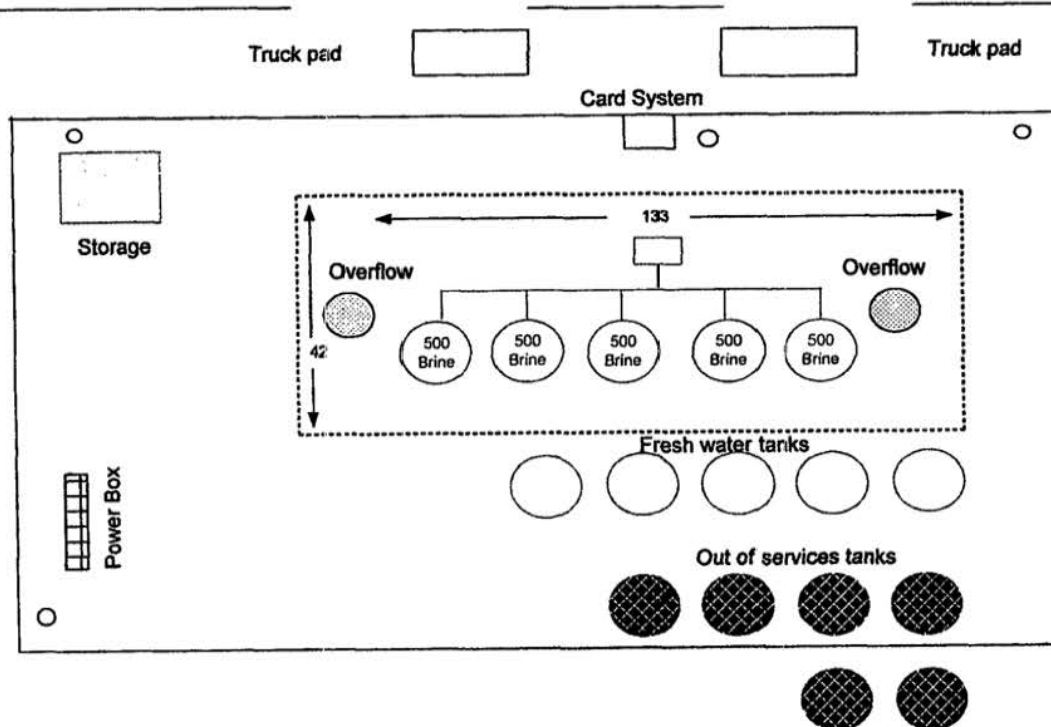
**KEY ENERGY  
SERVICES, INC**

BRINE & WATER STATION  
STATE 1 UNIT E  
EUNICE, NEW MEXICO

S15 T215 R37E

VT Project No. 200700000

DATE: 12/04/01 By: RP



VISION TECHNOLOGY, INC.

Not To Scale

CLIENT

**KEY ENERGY  
SERVICES, INC**

VT Project No.:SPCC02500

LOCATION

**BRINE & WATER STATION  
STATE 1 UNIT E  
EUNICE, NEW MEXICO**

DATE: 12/04/01 By: RP

S15 T215 R37E



## **Appendix A**

### **SWPPP Checklist**

## APPENDIX A

### SWPPP Checklist

**Quarterly Visual Inspection Checklist**  
Key Energy Eunice Brine and Water Station  
Lea County, New Mexico

Inspector's Name and Phone Number: _____
Inspection Date: _____ Inspection Site: _____
Weather Conditions: _____

Housekeeping Items	Yes	N/A	No	Corrective Action
1. Are loading pads free of liquids and drains open?				
2. Are the covers for trash dumpsters closed?				
3. Are there any damaged, corroded, or leaking 55- gallon drums or AST?				
4. Are all 55-gallon drums and ASTs with fluids properly labeled?				
5. Are there any unneeded oils in drums or ASTs that can be taken offsite for recycling?				
6. Are empty ASTs free of liquids?				
7. Are all active ASTs that contain hydrocarbons/brines, if any, located inside impervious secondary containment areas, and are the secondary containment areas water tight?				
8. Are the sump tanks free of liquid?				
9. Is garbage removed regularly, and are garbage bins kept closed?				
10. Is there evidence of drips or leaks from equipment or machinery on-site that can lead to contact with storm water?				

\_\_\_\_\_  
Inspector's Name

\_\_\_\_\_  
Inspection Date

## **Appendix B**

**Annual Compliance Inspection  
Report and Certification**

## APPENDIX B

### Annual Compliance Inspection Report and Certification Key Energy Eunice Brine and Water Station Lea County, New Mexico

Inspector: \_\_\_\_\_

Date of Inspection: \_\_\_\_\_

Scope and Content of Inspection:

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Observation relating to the implementation of the SWPPP:

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Actions required to update and improve the effectiveness of the SWPPP:

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Incidents of noncompliance:

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I hereby certify that this facility is in compliance with the terms and conditions of this Storm Water Pollution Prevention Plan. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_



## **Appendix C**

### **Monitoring Requirements**

## **APPENDIX C**

### **Monitoring Requirements Key Energy Brine and Water Station Lea County, New Mexico**

Permittees are not required to conduct monitoring under Section I – Oil and Gas Extraction Facilities. The Following requirements will be observed for any monitoring that is conducted.

#### **Sample Type**

Any discharge data collected shall be grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (grater than 0.1 inch rainfall) storm event.

The grab sample shall be taken during the first 30 minutes of the discharge. Samples shall be collected at the nearest accessible location just prior to discharge and after final treatment. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

## **Appendix D**

SWPPP Records