

BW - __999__

**PLUG & ABANDONMENT
EXAMPLES**

BRINE WELL WORK GROUP

3/26/09 - Present

Submit 3 Copies To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

BW-9

Form C-103
May 27, 2004

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505
MAY 3 3 38 PM '08

WELL API NO. 30-025-25525
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name G.P. Sims
8. Well Number 2
9. OGRID Number
10. Pool name or Wildcat

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other

2. Name of Operator
Key Energy Services

3. Address of Operator
6 Desta Drive Suite 4400 Midland, Texas 79705

4. Well Location

Unit Letter **A** : **420** feet from the **North** line and **210** feet from the **East** line
Section **32** Township **21-S** Range **37-E** NMPM **Lea** County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type **Steel** Depth to Groundwater Distance from nearest fresh water well Distance from nearest surface water

Pit Liner Thickness: mil Below-Grade Tank: Volume bbls; Construction Material

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☒
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

1. Set 7" CIBP @ 1,154'.
2. Circulate well with plugging mud.
3. Spot 20 sks of c cement on top of BP.
4. Spot 95 sks of c cement 500'-surface.
5. Cut off wellhead and anchors 3' BCL. Cap well. Install dry hole marker.

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

SIGNATURE [Signature] TITLE Agent DATE 9-30-2008

Type or print name Jack Shelton E-mail address: jshelton@keyenergy.com Telephone No. 432-523-5155
For State Use Only

APPROVED BY: [Signature] TITLE EBC DATE 10/07/08
Conditions of Approval (if any)

SEE ATTACHED!
H

C-103 G.P. Sims No. 2 (BW-9)
API# 30-025-25525
Conditions of Approval

- 1) A sonar test of the salt cavern is required in advance of plugging and abandoning the brine well. If a Sonar test cannot be run, the OCD requires a closure plan for the facility including ground water (if applicable), seismic and subsidence monitoring for 30 years; time-frame for equipment decommissioning/site restoration; and financial assurance to ensure that the above is completed.
- 2) The cavern shall be filled with brine water (not fresh water) in advance of plugging operations.
- 3) Cement must be pressure grouted from above CIBP to surface.
- 4) At least 290 sks of Class "C" Cement from CIBP Setting Depth of 1154' to surface is required.
- 5) Install a plug and abandonment marker.
- 6) Final C-103 Form shall be submitted within 30 days of plug and abandonment with final construction details.

Submit 3 Copies To Appropriate District
Office
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87505

State of New Mexico
Energy, Minerals and Natural Resources

BW-13

Form C-103
June 19, 2008

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-025-35702	
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>	
6. State Oil & Gas Lease No. M-15635	
7. Lease Name or Unit Agreement Name KTS Brine	
8. Well Number #001	
9. OGRID Number 21566	
10. Pool name or Wildcat Salado	

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Brine Well	
2. Name of Operator John R.Stearns DBA Stearns	
3. Address of Operator PO Box 988 Crossroads, NM 88114	
4. Well Location Unit Letter P : 200 feet from the South line and 200 feet from the East line Section 27 Township 9S Range 35E NMPM Lea County	
11. Elevation (Show whether DR, RKB, RT, GR, etc.)	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☒
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

NMOCD records indicate well drilled in 1966. NMOCD records indicate 7" casing set at 2000 feet cemented to surface
Total Depth 2800 feet. Open hole through the salt from 2000 feet to 2800 feet
Inspection of well head and downhole test indicate well cased with 5 1/2" casing. No record of surface casing
Stearns proposes to plug and abandon well as follows
Pull brine production equipment
Run SOCON Sonar log from 2000ft to 2800ft for brine cavity evaluation
Run tubing open ended to 2000ft x Spot 40 sacks Class "C" cement with 2% CaCl x Pull tubing x WOC
Run tubing and tag cement plug x Spot 50 sack cement plug x Pull tubing x WOC
Run tubing and tag cement plug x Spot 50 sack cement plug x Pull tubing x WOC
Run tubing and tag cement plug x Spot 50 sack cement plug x Pull tubing x WOC
Repeat above steps until cement to surface
Cut off well head and install NMOCD regulation PA marker
Enclosed before and after well diagrams

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Billy E. Prichard TITLE Agent for Stearns

DATE 12/29/08

Type or print name Billy E. Prichard

E-mail address: billy@pwllc.net

PHONE: 432-934-7680

For State Use Only

APPROVED BY: [Signature] TITLE FBC

DATE 1/08/09

Conditions of Approval (if any):

ATTACHED CONDITIONS

1/08/09
JP

C-103 Kenneth Tank Service Brine Facility No. 1 (BW-13)
API# 30-025-35702
Conditions of Approval

- 1) A sonar test of the salt cavern is required in advance of plugging and abandoning the brine well. If a Sonar test cannot be run, the OCD requires a closure plan for the facility including ground water (if applicable), seismic and subsidence monitoring for 30 years; time-frame for equipment decommissioning/site restoration; and financial assurance to ensure that the above is completed.
- 2) An EPA 5-Yr. MIT (30 min. @ 300 – 500 psig) w/ CIBP or cement plug at or near casing shoe is required in advance of plugging and abandoning the brine well.
- 3) The cavern shall be filled with brine water (not fresh water) in advance of plugging operations.
- 3) Cement must be pressure grouted from above CIBP or cement plug to surface.
- 4) At least 210 sks of Class "C" Cement from CIBP or cement plug Setting Depth of 2000' to surface is required.
- 5) Final C-103 Form shall be submitted within 30 days of plug and abandonment with final construction details.

Submit 3 Copies to Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
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1000 Rio Brazos Rd., Aztec, NM 87410
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1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

BW-19

Form C-103
May 27, 2004

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-015-21842
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name City of Carlsbad
8. Well Number 1
9. OGRID Number
10. Pool name or Wildcat Brine Mining Well

Pit or Below-grade Tank Application ☐ or Closure ☐ Not applicable

Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____

Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls Construction Material _____

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☐ Other **Brine**

2. Name of Operator
Key Energy Services, LLC

3. Address of Operator
6 Desta Drive, Suite 4400, Midland, Texas 79705

4. Well Location
Unit Letter **H**, **2420** feet from the **North** line and **330** feet from the **East** line
Section **36**, Township **22S** Range **26E** NMPM **Lea** County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☒
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

See Attached wellbore diagram for details.

Key Energy plans to plug and abandon this well. The well is a brine well under Permit# M19264. Key Energy will drill a new brine well nearby into the same salt section at a future date. The salt section is from 710 to 930'.

In early 2008, four separate attempts to squeeze a casing leak between 95-105' were performed. The last attempt pumped 59 bbls of cement at an AIR of 0.8 bpm, AIP 1250 psi. After drilling out cement a pressure test of 300 psi bled back to 200 psi in 5 minutes. A subsequent temperature survey showed the squeeze cement to be positioned outside casing from 70-160 feet.

Proposed P&A procedure:

Set cement retainer at 600' (whipstock top at 628')

Pump 100 sx of Class C cement below retainer.

POOH to 100 feet, place cement plug from 100-600 feet. WOC. Tag top of cement plug.

Pump cement to fill casing to surface. Repeat, if necessary, until TOC remains at surface.

Cut off casing stubs, place P&A marker.

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

SIGNATURE M. Duffin TITLE Agent for Key Energy DATE 2-7-2008

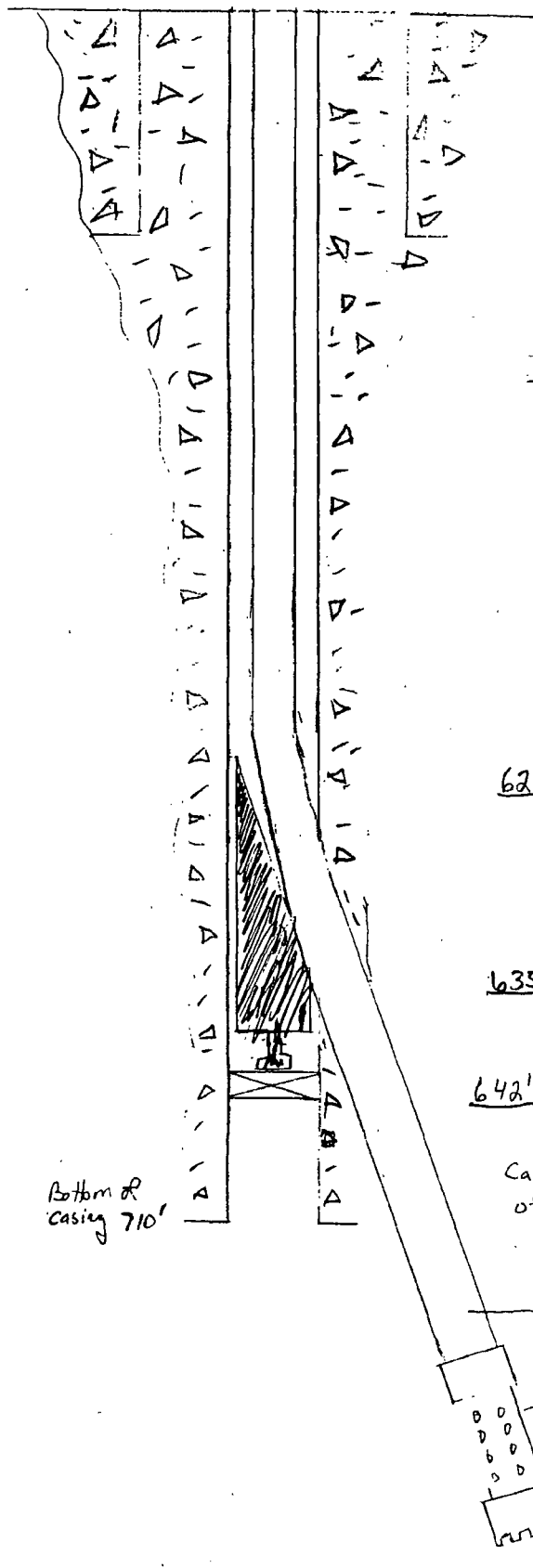
Type or print name **COPY** E-mail address: Telephone No.

For State Use Only **ORIG TO ARTESIA DISTRICT**

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

City of Carlsbad #1
 Truckee Drive
 Current Wellbore Status
 4-25-03



350' - 8 5/8" 30.5# Csg
 Cemented w/ 150 sxs Class "C" + 4% CaCl₂
 Circulated to surface
 87' csg joints

710' - 5 1/2" 15.5# Csg
 Cemented w/ 150 sxs Class "C" + 4% CaCl₂
 Circulated to surface
 32' csg joints

628' - Top of whipstock

635' - Bottom of whipstock

642' - Bridge plug set

Casing at 692' down to bottom
 of csg at 710' is bad

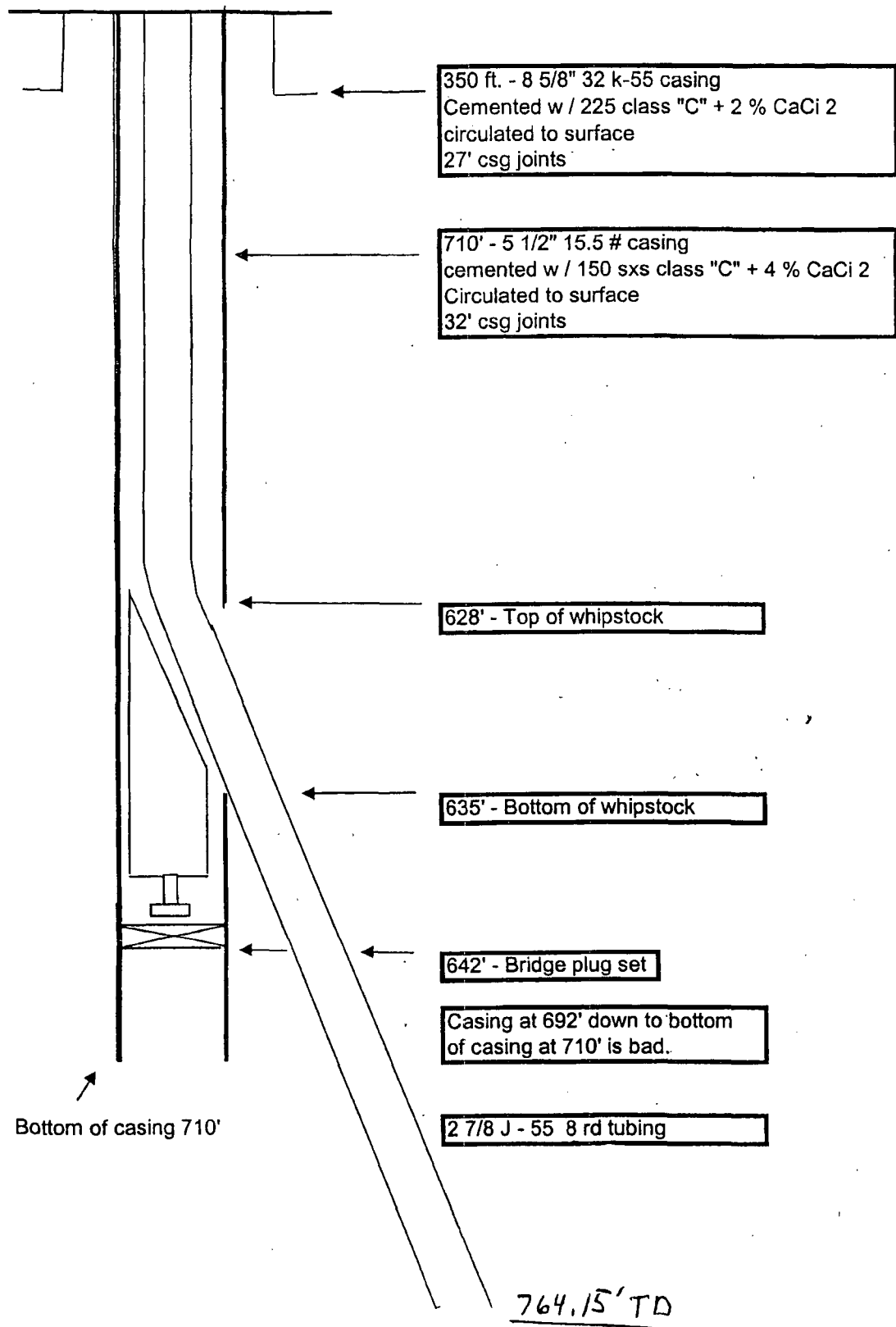
2 7/8 J-55 8rd tubing

8' Perforated sub

Slot Head collar

764.15' TD

Key Energy Services
 City of Carlsbad Well #1
 2420' FNL + 330' FEL
 S 36 T 22 S R 26 E ULH
 Eddy Co. New Mexico



Elevation 3199'

Current Wellbore Status

3/25/93

350' - 8 5/8", 32#, K-55 Casing

Cemented w/225 sxs Class "C" + 2% CaCl₂

Circulated cement to surface

710' - 5 1/2", 15.5#, Casing

Cemented w/150 sxs Class "C" + 4% CaCl₂

Circulated 15 sxs to surface

2 7/8", 6.5#, 8rd tubing @ 888'

with 4 3/4" bit welded on bottom collar

4 3/4" Hole

T.D. @ 908' (3/93)

Original T.D. @ 930'

ROWLAND TRUCKING, INC.
City of Carlsbad Well No. 1
2420' FNL & 330' FEL
Section 36, T-22S, R-28E
Eddy County, New Mexico