

State of New Mexico  
Energy, Minerals and Natural Resources Department

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**Susana Martinez**  
Governor

**David Martin**  
Cabinet Secretary

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Jami Bailey, Division Director**  
Oil Conservation Division



March 25, 2014

Mr. Billy Nievar, PE  
Chaparral Energy LLC  
701 Cedar Lake Blvd  
Oklahoma City, OK 73114

**RE: Packer Setting Depth Exception**

Injection Authority: Division Order R-2356 and Amended Administrative Order  
WFX-570; West Dollarhide Queen Sand Unit Waterflood project  
Pool: Dollarhide Queen pool  
West Dollarhide Queen Sand Unit Well No. 151                      API 30-025-30306  
Unit M, Sec 29, T24S, R38E, NMPM, Lea County, New Mexico

Mr. Nievar:

Reference is made to your request on behalf of Chaparral Energy LLC (OGRID 4115; "Chaparral") received by the Division on March 10, 2014, for the above named well. Chaparral applied for exception for setting the packer within 100 feet of the top of the approved injection interval.

It is our understanding that mechanical integrity testing conducted on this well following the replacement of tubing and packer system was only successful with the packer set at a depth of 3538 feet. This location of the packer is approximately 118 feet above the top perforation for the injection interval that begins at 3656 feet. The approved injection interval is from 3656 feet to 3808 feet.

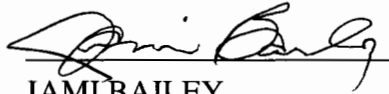
For the reasons stated in the application and because it appears that correlative rights are protected, waste will not occur and this modification will not endanger any fresh water aquifer or the environment, the exception is granted. The packer location within this well shall not be set higher than 118 feet unless the operator receives written approval from the Division Director.

Packer Setting Depth Exception  
Chaparral Energy LLC  
March 25, 2014  
Page 2 of 2

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The Division Director may rescind this exception if it becomes apparent that the injected fluid is not being confined to the permitted interval or is endangering any fresh water aquifer.

Sincerely,

A handwritten signature in black ink, appearing to read "Jami Bailey", written over a horizontal line.

JAMI BAILEY  
Director

JB/prg

cc: Oil Conservation Division – Hobbs Office  
Administrative Order WFX-570  
Well File API 30-025-12270  
United States Bureau of Land Management – Carlsbad Office

Billy W. Nievar P.E.  
Chaparral Energy LLC  
701 Cedar Lake Blvd  
Oklahoma City, Oklahoma 73114

February 27, 2014

Mr. Phillip Goetz  
Oil Conservation Division  
Energy Minerals and  
Natural Resources Department  
1220 South Saint Francis Drive  
Santa Fe, New Mexico 87505

RE: Letter of Violation Dated (10-Oct-13)

Dear Mr. Goetz:

Chaparral Energy received the referenced letter of violation and has prepared a response for parts of the letter. This letter deals with the Packer setting depths for West Dollarhide Queen Sand Unit (WDQSU) Wells No. 021, 036, 037, 151 and 133.

**West Dollarhide Queen Sand Unit No. 021. M-30-24S-38E 30-025-12270**

**\*\*Packer Setting depth 106' above top perf. \*\*\*Operator in Violation of NMOCD Permit order WFX-570\*\*\* Operator must seek Approval from Phillip Goetz – OCD Santa Fe Prior to setting Packer more than 100' above top perf\*\*\***

**Response:** In February 1997 this well was placed in Temporary Abandonment Status by setting a CIBP at 3,600'. In April 2010 Chaparral was required to remove the well from TA status. Usually it takes two to three days of work to remove the CIBP and run the injection tubing and packer. Due to down hole well conditions this well took 8 days of time. We had difficulty in locating a packer seat. Well records show this well has 7.0" casing cemented up to 720' and 4-1/2" casing cemented to surface inside the 7.0" casing. On April 20, 2010 we had set the packer at 3,583' and did a 500 psi annulus pretest. On April 21, 2010 we placed packer fluid in the annulus flanged up the well and the annulus leaked. We tested at 61' higher and had a leak. Pulled 10' higher and it held. We had to use tubing subs to keep the packer at this depth. This ended up with the packer at 3,560'. The top perforation is at 3,666'. The annulus tested ok on April 21, 2010 with the packer set at 3,560'. Due to the well conditions Chaparral requests that NMOCD grant approval of setting the injection packer more than 100' above the top perforation. See (Attachment A) attached well bore schematic and Well History.

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FEB 27 10 10 PM '14

**West Dollarhide Queen Sand Unit No. 036. I-31-24S-38E 30-025-12288**

**\*\*Packer Setting depth 132' above top perf. \*\*\*Operator in Violation of NMOCD Permit order WFX-570\*\*\* Operator must seek Approval from Phillip Goetz – OCD Santa Fe Prior to setting Packer more than 100' above top perf\*\*\***

**Response:** It appears the previous wellbore schematic with a packer setting depth of 3,442' is in error. The correct setting depth should be 3,478.25'.

This well was drilled and completed in November 1952. 7.0" casing was set at 3,670' and cemented with 1,400 sx cement. In 1988 the well was deepened to 3,969', 4-1/2" casing was then run and cemented to surface at 3,950'. After the workover the top perforation was placed at 3,574'. When the well was initially placed on injection in 1988 the injection packer was placed at 3,472'. In a workover conducted by Oxy in March 1993 the packer was set with 113 joints at 3511.08. Chaparral has worked on the well one time since it was placed on injection. In June 2008 a tubing leak developed in the injection string. Thus a workover was required to repair the well. During the workover the 4-1/2" casing collapsed at the surface, right under the wellhead. The 4-1/2", 7.0" and 9-5/8" casings were all repaired during the workover. One joint of injection tubing was removed that had a hole in the tubing. 112 jts injection tubing and the packer were run back into the well and set at 3,478'. This places the packer 96' above the top injection perforation.

This setting depth was determined after a diligent search of the well file. A tubing detail of the injection tubing was located for the March 1993 workover conducted by Oxy. From this information and the workover conducted by Chaparral in 2008 we were able to determine the proper setting depth of the packer. The depth was determined by averaging the joint tally as listed in the Oxy March 25, 1993 workover report. Thus using an average of 30.95' for each joint of tubing and having one joint removed. Chaparral ran 112 jts in the well on June 6, 2008. Then adding the length of the Seating Nipple 1.10' the Packer of 2.75' and Kelly bushing depth of 8.00' totals up to 3,478.25'. This depth places the packer within 96' of the top perforation. See (Attachment B) attached well bore schematic and Well History. Thus with this additional information WDQSU No. 36 should not be in Violation of NMOCD Permit Order WFX-570.

**West Dollarhide Queen Sand Unit No. 037. L-32-24S-38E 30-025-12302**

**\*\*Packer Setting depth 117' above top perf. \*\*\*Operator in Violation of NMOCD Permit order WFX-570\*\*\* Operator must seek Approval from Phillip Goetz – OCD Santa Fe Prior to setting Packer more than 100' above top perf\*\*\***

**Response:** This well was initially drilled and completed in April and May of 1953. 7.0" casing was set at 3,662' and cemented with 200 sx cement. In March 1974 the well was plugged and abandoned. In

March 1981 the well was washed down to 1313' and the well replugged. In August 1989 the well was reentered and deepened to 3,900', 4-1/2" casing was then run and cemented to surface at 3,900'. After the workover the top perforation was set placed at 3,570'. In May 1997 a CIBP was set in the 4-1/2" casing at 3,690'. The last data in the well file indicates the injection packer is set at 3,494'. This places the packer only 76' above the top injection perforation. It appears the Chaparral wellbore schematic is in error. An updated wellbore schematic is attached see (Attachment C).

**West Dollarhide Queen Sand Unit No. 151. M-29-24S-38E 30-025-30306**

**\*\*Packer Setting depth 119' above top perf. \*\*\*Operator in Violation of NMOCD Permit order WFX-570\*\*\* Operator must seek Approval from Phillip Goetz – OCD Santa Fe Prior to setting Packer more than 100' above top perf\*\*\***

**RESPONSE:** This well was drilled by Sirgo Operating Inc. The well was spud on July 24, 1989. The well was drilled to a TD of 3,940'. On July 29, 1989 5-1/2" casing was run and set at 3,940' and cemented to surface with 1000 sx of cement. On August 14, 1989 2-3/8" injection tubing was run in the well and a packer was set at 3,537.8'. Since that time the well has not been pulled or worked on. This packer has been in this position before Chaparral became operator of the WDQSU in November 1, 2003.

It is possible to perform a workover and remove the tubing and packer. Chaparral could attempt to find a packer seat 20' deeper than the packer is located at however, experience in the field has taught us that corrosion can be a problem and could make it difficult in locating a packer seat at a deeper depth.

Due to the well conditions Chaparral requests that NMOCD grant approval of setting the injection packer more than 100' above the top perforation. See (Attachment D) attached well bore schematic and Well History.

**West Dollarhide Queen Sand Unit No. 133. D-31-24S-38E 30-025-30355**

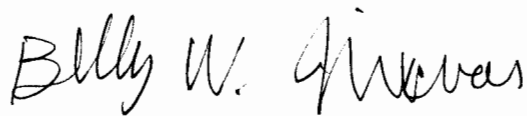
LAST INJECTION 12/2012: SHUT IN/TA EXPIRED 2007; NO REPORT ON FILE TO DETERMINE STATUS CHANGE OF WELL; TA'D 2006 TBG/PKR IN HOLE; **\*\*\*Operator in Violation of NMOCD Rule 19.15.25.12 (APPROVED TEMPORARY ABANDONMENT) \*\*\*\*\* UPON WORKOVER OPERATOR MUST SET PACKER ACCORDING TO OCD PERMIT WFX-570 – NOTE – IF PACKER CANNOT BE SET ACORDINGLY, OPERATOR MUST CONTACT OCD SANTA FE PHILLIP FOR PACKER SETTING APPROVAL.**

**RESPONSE:** The WDQSU No. 133 was spud on February 3, 1990. 5-1/2" casing was run and cemented at 3,950' 850sx. Cement did not circulate. 1,036' of 1" tubing was run outside of the 5-1/2" casing and Cmt'd to surface w/170 sx. The well was completed in February 1990 as an injection well with the packer set at 3,558.04. The top perf is at 3,678'. This places the packer 119' above the top perforation. From Chaparrals records it appears that once the well was placed on injection in February 1990 it has

never been pulled apart. Chaparral took over operations of the WDQSU on November 1, 2003. The well was placed on Temporary Abandonment Status from Jan 24, 2007 to Jan 24, 2008. Chaparral has tested the flow line to the well and it is in working condition. Chaparral has also noticed that the well appears to have a tubing leak. Chaparral is preparing 3160-5 forms for the BLM to repair this well. During the workover Chaparral will make an attempt to set the packer within 100' of the top perforation, test the annulus and see if the annulus will hold. If the annulus will not hold due to rough casing within 100' of the top perforation Chaparral will have to move the packer to a location where the annulus will hold. Chaparral will not know this until work begins on the well. After the well is repaired and the Mechanical Integrity Testing is complete and approved Chaparral would like to return the well to active injection. See (Attachment E) attached well bore schematic and Well History.

The five question and response scenarios listed above deal directly with the letter of violation referenced above. Hopefully this information will successfully answer the questions raised in the letter of violation. If you have further questions please feel free to contact me at 405-426-4040. Also a response to Chaparral from the State of New Mexico is requested regarding these responses.

Sincerely,

A handwritten signature in black ink that reads "Billy W. Nievar". The signature is written in a cursive, flowing style.

Billy W. Nievar P.E.

KB: 3141

DF: 3140

GL: 3131

Size: 13 3/8

9 5/8" ,36 #,J-55 @312' ,300 sx

TOC@ 720'

Size: 8 3/4"

Packer@3560

Size: 6 1/8"

OPBTD: 3915'

TD: 3950

2 3/8" x 4 1/2" PC AD-1 tension pkr

3666	-3672	Queen	3
3680	-3683	Queen	3
3688	-3694	Queen	3
3700	-3706	Queen	3
3710	-3718	Queen	3
3720	-3723	Queen	3
3726	-3729	Queen	3
3764	-3766	Queen	
3770	-3773	Queen	

7" ,23 #,J-55 @3671' ,880 sx

3776	-3779	Queen
3798	-3802	Queen
3804	-3808	Queen
3824	-3827	Queen

4 1/2" ,10.5 #,J-55 @3950' ,460 sx

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

Well: West Dollarhide QSU ,#21 ,4087.01

Operator: CELLC

Location: 330' FNL &amp; 990' FWL, Lea Co., NM

Legal: Sec. 30-24S-38E

County: Lea, NM

LAT/Long: /

Dir:

Spud Date: 11/13/53

Drilling Finished: 12/07/53

Completion Date: 12/09/53

First Production: 12/10/53

**TUBING #1:**

Type	#Jts	Size	Wt#/f	Grade	Set@
8rd	112	2 3/8"			3560'

**HISTORY:**

Drlg report show 7" TOC @ 1720', other records in well file shows 720' by temp svy.

11-5-92MIRU PU. Unset AD 1 packer. Tag 251' fill. POH with tubing and packer. RIH and bail fill to TD. POH with bailer and test. RIH with tubing and packer to 5000#. Set and test packer/casing to 380# for 15 min. Tested okay. RD&MO.

2-17-94MIRU PU, NDWH, NUBOP, POOH with packer 2-3/8" tubing. RIH with exchange Baker AD 1 packer and 2-3/8" tubing. test to 5000# and replace 1 tubing collar, CH with packer fluid and set packer at 3533', NDBOP, NUWH. Press casing to 300# - 15 min - held on RDPU

**Attachment A**

Input by: Traci

Approved by:

Last Update: 04/22/10

**Attachment A**
**Operated**

Well: 4087.0010.001      WDQSU #21      Operator: CHAPARRAL ENERGY LLC      API: 30-025-12270-00-00  
Section: 30 Township: 024-S Range: 038-E Lot: M Qtr/Qtr: SW/4 SW/4 (330' FSL & 990' FWL of SW/4)      County/St: Lea, NM

4/12/2010	Activity: WO	Depth:	0	Daily Cost:	\$8,349	Accum Cost:	\$8,349
Test deadmen. Clean loc w/backhoe. Test csg to 500#, good. Set rig mat. MIRUWSU. MI & set pipe racks & workstring. ND WH. NU BOP. M reverse unit. SWI. SDFN.							
4/13/2010	Activity: WO	Depth:	0	Daily Cost:	\$6,498	Accum Cost:	\$14,847
0# on well. Tally, PU & RIH w/3 7/8 tooth bit, bs, 6-3 1/8" drill collars, co & 108 jts 2 3/8 workstring tbg. Tag CIBP @ 3615' (KB). RU power swivel. Strip on stripping head. Drill CIBP, got hard @ 3733' (KB), are in perms. Getting back scale & sticking, pull up. Circ btms up. SWI. SDFN.							
4/14/2010	Activity: WO	Depth:	0	Daily Cost:	\$5,256	Accum Cost:	\$20,102
550# on well. Bleed well dwn. Break circ. Start drilling, bit is stopping up & unable to make any hole. LD swivel & 1 jt. POOH w/55 std & 1 jt, co 3 std 3 1/8 drill collars, bs & bit. Bit, bs & 4' of drill collar stopped up w/scale & chunks of iron. RIH w/tools & tbg. Tag in same place @ 3733' (KB). Made 2' today. Returns look like csg. Bit stopping up & jumping up & dwn. Pull up & circ clean. SDFN.							
4/15/2010	Activity: WO	Depth:	0	Daily Cost:	\$8,683	Accum Cost:	\$28,785
500# on well. Bleed well dwn. LD swivel & 1 jt. POOH w/55 std & 1 jt 2 3/8" workstring tbg. LD, co, 6-3 1/8 drill collars, bs & 3 7/8 tooth bit. RIH w/2 3/8" x 4 1/2" AD-1 PC tension pkr, 1 jt - 55 std, 1 jt 2 3/8 workstring. Set pkr @ 3558' (KB) w/10000# tension. Wait 3 hrs on acid truck. Unload & tally 113 jts 2 3/8" J55 8rd ceramic coated tbg. RU Rising Star. Establish rate of 1.3 BPM @ 1050#. Pmp 500 gals 15% NE FE HCL acid w/20 bbls PW flush. ISIP 850#, 780#. RD Rising Star. Release pkr. Pull & LD 71 jts 2 3/8" workstring. SWI. SDFN.							
4/16/2010	Activity: WO	Depth:	0	Daily Cost:	\$8,683	Accum Cost:	\$37,467
500# on well. Bleed well dwn. Pull & LD 51 jts 2 3/8" WS tbg. Pkr hung & sheared on way out. PU & RIH w/reconditioned 2 3/8" x 4 1/2" AD-1 PC tension pkr, 113 jts cc 2 3/8" J55 8rd tbg. ND BOP. Circ 60 bbls pkr fluid. Set pkr @ 3614' (KB) w/11000# tension. Load & test csg, leaked. Pull up to 17500# tension & test again, leaked. Try to release pkr to pull 1 jt & could not, ran 2-4' sub & 1 jt, still did not get loose. SWI. SDFN. Pkr @ 3653', top perf f@ 3666'.							
4/17/2010	Activity: WO	Depth:	0	Daily Cost:	\$0	Accum Cost:	\$37,467
SDFWE.							
4/18/2010	Activity: WO	Depth:	0	Daily Cost:	\$0	Accum Cost:	\$37,467
SDFWE.							
4/19/2010	Activity: WO	Depth:	0	Daily Cost:	\$11,213	Accum Cost:	\$48,680
500# on well. Try to release pkr, could not, shear pkr. Pull 1 jt, 2-4' subs & stand back 56 stds, 1 jt & AD-1 tension pkr. Guide is out of slide & wedged, impossible to release dwn hole. Bring workstring & racks back from #24. Tally, PU & RIH w/3 3/4 tooth bit, 4 1/2 csg scraper, co, 1 jt, bs co, 114 jts 2 3/8 ws tbg. Csg scraper @ 3627' (KB). Set reverse unit & fill w/PW. Circ dwn csg & out tbg w/120 bbls PW. Recovered 1 small piece of scale. Wellbore appears to be clean. Gaining fluid in pit as we circ. SWI. SDFN.							
4/20/2010	Activity: WO	Depth:	0	Daily Cost:	\$8,280	Accum Cost:	\$56,960
500# on well. Bleed well dwn. Pull 56 std, co, bump sub, co, 1 jt tbg, co, 4 1/2 csg scraper, 4 3/4 bit. RIH w/2 3/8" x 4 1/2" PC AD-1 tension pkr, 56 std & 1 jt. Set pkr @ 3584' (KB). Close pipe rams & run chart. Good 30 min chart @ 500#. POOH, LD workstring. RIH w/2 3/8" x 4 1/2" PC AD-1 tension pkr & 112 jts 2 3/8" J55 8rd tbg. SWI. SDFN. Pkr is hanging @ 3583' (KB).							
4/21/2010	Activity: WO	Depth:	0	Daily Cost:	\$6,900	Accum Cost:	\$63,860
500# on well. Bleed well dwn. Strip off BOP. Flange up. Pmp 60 bbls 2% KCL pkr fluid. Set pkr @ 3583' (KB). Flange up & test, leaked. Pulled up hole 61 & tested, leaked. Pull 1 jt & test, held, we are over 100' above top perf, run in 20' & test @ 3560' (KB), looks good. Ordered 20' of PC sub to get pkr set in correct OCD requirements. LD 1 jt. PU & RIH 4' x 2-8' x 2 3/8 PC sub. Set pkr @ 3560' (KB). Flange up & run chart for OCD, passed. RU pmp truck on tbg. Establish rate of 1.3 BPM @ 1200#. Pmp 20 bbls KCL water. Release pmp truck. RDMOWSU. Load & move workstring & racks to next well. Release all equipment.							
9/12/2012	Activity: NONAFE	Depth:	0	Daily Cost:	\$0	Accum Cost:	\$0
(21489) 0 () Depth in @ 0							
Drove to location w/pmp truck, tied onto inj well & pmpd 20 BW @ 1.5 bbls @ 1280#. Starting TP 600#, ending TP 1120#, CP 0# & max pressure 1320#.							
10/17/2013	Activity: NONAFE	Depth:	0	Daily Cost:	\$792	Accum Cost:	\$792
(21889) 0 () Depth in @ 0							
Bill Dunlap							
Used trk to pmp 25 BW dwn tbg under max pressure to stay in compliance w/the State of New Mexico.							



WELL HISTORY

11/13/53 Spudded well. Set 9 5/8" csg @ 312' w/300 sxs Neat cmt. Cmt circ to surface.

11/24/53 Set 7" csg @ 3671' w/880 sxs cmt (80 sxs Neat on btm, Baker two stage @ 2631' w/800 sxs 1 to 1 Dimix, 2% Gel, 15% Stratcrete). Cmt behind 7" csg @ 1720' from surface according to drlg report. Other records in well file show TOC @ 720' by temp svy. Petrofrac'd w/6000 gals oil & 9000# sand from 3671'-3732'.

02/02/64 MIRU PU. Pulled rods and pump. Paraffined and pulled 2" tubing. Cleaned out cavings from 3722' to 3732'. Ran 116 joints 2-3/8" EUE 4.7# 8R SS J-55 R-2 tubing with 7" x 2-1/2" Halliburton R-3 Tension type packer. Set tubing at 3615' and packer at 3617' with 10000# tension. Installed water injection well head.

06/04/69 RU. Pulled tbg & pkr, dressed pkr & reran, set @ 3477' w/10000#. Dowell acidized dwn tbg w/1500 gals 15% HCL acid & max press 1700# & injection rate 2 BPM. Injected wtr 21 hrs, 225 bbls @ 1100#. Treated w/500 gals M-91 at 1400#, inj rate 1 BPM. Flushed w/18 BW @ 1300#. Injected 234 BW in 22 hrs @ 1210#. Next 24 hrs injected 307 bbls @ 1240#. Increased injection from 13 BWPD @ 1240# to 307 BWPD @ 1240#.

10/05/71 Treated open hole 3671'-3732' w/1500 gals 15% Homogenized acid. BDP 2050#. AIR 2.3 BPM. Returned to injection.

05/16/73 MI PU. Pulled tubing and packer. Set 7" bridge plug at 3650'. Circ with 10# mud. Spotted 15 sx cement plug at 3576-3650'. Spotted 100 sx cement plug 1047-1565'. Spotted 10 sx cement plug surface to 15'. Installed dry hole marker.

05/17/73 Well was plugged and abandoned because area has not responded to flooding operations.

02/20/88 Started drlg out. Drill to 180', circ. Drill out surface plug, drill 90' from 1060'-1150'. Circ hole. Continue drlg cmt to 1658' and fell out of cmt. Circ 10# brine mud down to 1691'. Circ out brine gel down to 3370'. Drill on cmt & metal (CR or CIBP?), made 5" hole. Continue to drill on metal, made 4". SD operations.

08/02/89 Rework location. Dig ditch to earth pit. MIRU PU. Move tubing from #12 to #21. RU reverse unit and fill pit with 10# brine. RIH with used 6-1/8" skirted milltooth bit, bit sub, six 4-3/4" DC's. SION.

08/03/89 Continue in hole with tubing and bit. Tag at 1444'. Start drilling to 1477'. Washed down every 5 jts. Washed down to 3344'. Circ hole clean. Pull up to 1477'. SDON.

08/04/89 RIH with pipe. Tag at 3344'. Drill to 3345'. Drill through iron plug. Washed down to 3601'. Drilled to 3605'. Pulled up to 1477'. SDON.

08/05/89 POOH and change bits. Run 6-1/8" milltooth bit, six 4-3/4" DC, 112 jts 2-7/8" tubing and 20' kelly. Drill out iron at 3605' to 3611'. Drill and wash down to 3731'. Circ clean. Pull up to 1477'. SDON.

08/06/89 No activity.

08/07/89 Continue drilling from 3731' to 3749'. Made 18'. Bit stopped making hole. POH and exchange bits. RIH with same BHA. Stop at 1477' and SION.

08/08/89 Continue drilling from 3749' to 3755'. Made 6'. Drilling about 1-1/2' per hour. Circ clean. POH with tubing, DC and bit. RIH with tubing, 20 DC's and 537V button bit. Tag at 3725'. Circ down to 3755'. Continue drilling to 3768'. Made 13'. Circ clean. POH to 1477'. Had gray formation returns. SION.

08/09/89 Continue drilling from 3768' to 3822'. Made 54' in 8 hours. Bit stopped drilling. POH with tubing, DC's and bit. RIH with used 6-1/8" bit, 20 DC's and tubing to 1477'. SION.

08/10/89 Continue drilling from 3822' to 3916'. Made 94'. Getting white and gray formation back. Pull up and circ clean. PU to 1477' and SION.

08/11/89 RIH and tag fill at 3881'. Had 35' fill. Plugged bit. POH and found bit plugged and worn out. Exchange bits and RIH and circ out fill. Continue drilling from 3916' to 3936'. Made 20'. Circ hole and pull up to 1477'. SION.

08/12/89 RIH and tag at 3871'. Wash and fill to 3936' and continue drilling to 3950'. TD well. Circ clean. RU kill truck and pump red dye caliper (115 bbls). Circ 1 hour. POH. RIH with bit and 2 DC's and tubing to 1477'. SION.

## WELL HISTORY

08/13/89	No activity.
08/14/89	Fill working pit with clean 10# brine and mix 20 sx brine gel and 20 sx starch, 2 sx soda ash and 1 sx caustic. RIH and tagged fill at 55'. Circ hole with mud sweep to TD of 3950'. POH and LD tubing and DC's. RU & RIH with 98 jts 10.5# 4-1/2" casing. RU and cmt with 350 sx PSL with 2% CaCl and 110 sx Class C with 2% CaCl. Circ 92 sx. Close valve and SION.
08/15/89	Cut off 4-1/2" casing. RIH with wireline and depthometer. Tag at 3905'. RD depthometer. RU and MO PU. Weld on bell nipple and install well head. Clean reverse pit. Finish installing inj line. Test and back fill ditch. WOC and Completion.
08/17/89	Test inj line. Found leak, dig out leak and install steel 45 degree tube turn. Test and backfill. Move tubing to location and rack. MIRU PU. RIH with tubing to TD of 3915' and RU kill truck and circ hole clean. Drop standing valve and test tubing to 3500# - okay. Fish standing valve. Install safety valve and SION.
08/18/89	TOH with 128 joints of 2-3/8" tubing. Tally tubing out. Rig up Halliburton perforators and shut down.
08/19-22/89	No activity.
08/23/89	RU and perf Lower Queen from 3764-66', 70-73, 76-79, 3798-3802, 04-08, 24-27. RD perf RIH with 4-1/2" treating packer and 124 jts of 2-3/8" tubing. RU and spot 1 bbl acid at 3827'. Pull up and set packer at 3632'. Acidize well with 1800 gal 15% HCl NeFe acid with clay stabilizer. Block with 150 1.3 SG ball sealers (20 balls/3.8 bbls). Had slight ball action. Flush to bottom perf with PW. Total fluid to recover 77 bbls. ISIP 1300#, 5 min 1200#, 10 min 1150#, 15 min 1100#. Avg rate 4.5 BPM. Avg pressure 2400#. SI 30 mins. Bleed down and swab back to load. Unset packer. Swab dry. Close valve and SION.
08/24/89	Bleed pressure. POH with tubing and packer. RU and perf Upper Queen formation from 3666-72, 80-83, 88-94, 3700-06, 10-18, 20-23, 26-29. 3 SPF, 123 holes. RD perf. RIH with 4-1/2" treating RBP and packer. Set RBP at 3750'. PU and set packer and test RBP - okay. No spot. PU and set packer at 3570' and acidize Upper zone with 2000 gal HCl NeFe acid with clay stabilizer. Blocking with 2 stages salt (950#), 3 stages acid. Had good block action. Flush to bottom perf with PW. Total fluid to recover 80.3 bbls. Avg rate 3.5 BPM, avg pressure 2000#. ISIP 1200#, 5 min 1150#, 10 min 1100#, 15 min 1100#. SI 30 mins. Open well and bleed pressure. Flow to pit. RU and swab back load. SION.
08/25/89	RIH with swab and tag fluid 700' from surface. Swab down. Unset packer. RIH and tag gill. RU and circ fill off of RBP. Latch onto RBP, unset, POH and LD tubing, packer and RBP. Tally and RIH with 2-3/8" tubing. RU and circ 100 bbls water with 1 drum of packer fluid. Set packer at 3559. Test backside to 500# for 30 min. NU wellhead and tie into inj line. RUD and MO. SION.
08/26/89	Start injecting at 260 BPD/500#.
11/05/92	MIRU PU. Unset AD 1 packer. Tag 251' fill. POH with tubing and packer. RIH and bail fill to TD. POH with bailer and test. RIH with tubing and packer to 5000#. Set and test packer/casing to 380# for 15 min. Tested okay. RD&MO.
02/17/94	MIRU PU, NDWH, NUBOP, POOH with packer and 2-3/8" tubing. RIH with exchange Baker AD 1 packer and 2-3/8" tubing, test to 5000# and replace 1 tubing collar, CH with packer fluid and set packer at 3533', NDBOP, NUWH. Press casing to 300# - 15 min - held ok. RDP. Put well back on injection.
02/20/97	Sundry notice filed for TA status, CIBP set @ 3600'.
07/02/97	Pressure test csg to 560# for 30 min, good test.
04/06/05	Pressure test csg to 540# for 32 min, good test.
04/12/10	Test deadmen. Clean loc w/backhoe. Test csg to 500#, good. Set rig mat. MIRUWSU. MI & set pipe racks & workstring. ND WH. NU BOP. MI reverse unit. SWI. SDFN.
04/13/10	0# on well. Tally, PU & RIH w/3 7/8 tooth bit, bs, 6-3 1/8" drill collars, co & 108 jts 2 3/8 workstring tbg. Tag CIBP @ 3615' (KB). RU power swivel. Strip on stripping head. Drill CIBP, got hard @ 3733' (KB), are in perms. Getting back scale & sticking, pull up. Circ btms up. SWI. SDFN.

WELL HISTORY

04/14/10 550# on well. Bleed well dwn. Break circ. Start drilling, bit is stopping up & unable to make any hole. LD swivel & 1 jt. POOH w/55 std & 1 jt, co, 3 std 3 1/8 drill collars, bs & bit. Bit, bs & 4' of drill collar stopped up w/scale & chunks of iron. RIH w/tools & tbg. Tag in same place @ 3733' (KB). Made 2' today. Returns look like csg. Bit stopping up & jumping up & dwn. Pull up & circ clean. SDFN.

04/15/10 500# on well. Bleed well dwn. LD swivel & 1 jt. POOH w/55 std & 1 jt 2 3/8" workstring tbg. LD, co, 6-3 1/8 drill collars, bs & 3 7/8 tooth bit. RIH w/2 3/8" x 4 1/2" AD-1 PC tension pkr, 1 jt - 55 std, 1 jt 2 3/8 workstring. Set pkr @ 3558' (KB) w/10000# tension. Wait 3 hrs on acid truck. Unload & tally 113 jts 2 3/8" J55 8rd ceramic coated tbg. RU Rising Star. Establish rate of 1.3 BPM @ 1050#. Pmp 500 gals 15% NE FE HCL acid w/20 bbls PW flush. ISIP 850#, 780#. RD Rising Star. Release pkr. Pull & LD 71 jts 2 3/8" workstring. SWI. SDFN.

04/16/10 500# on well. Bleed well dwn. Pull & LD 51 jts 2 3/8" WS tbg. Pkr hung & sheared on way out. PU & RIH w/reconditioned 2 3/8" x 4 1/2" AD-1 PC tension pkr, 113 jts cc 2 3/8" J55 8rd tbg. ND BOP. Circ 60 bbls pkr fluid. Set pkr @ 3614' (KB) w/11000# tension. Load & test csg, leaked. Pull up to 17500# tension & test again, leaked. Try to release pkr to pull 1 jt & could not, ran 2-4' sub & 1 jt, still did not get loose. SWI. SDFN. Pkr @ 3653', top perf @ 3666'.

04/17-18/10 SDFWE.

04/19/10 500# on well. Try to release pkr, could not, shear pkr. Pull 1 jt, 2-4' subs & stand back 56 stds, 1 jt & AD-1 tension pkr. Guide is out of slide & wedged, impossible to release dwn hole. Bring workstring & racks back from #24. Tally, PU & RIH w/3 3/4 tooth bit, 4 1/2 csg scraper, co, 1 jt, bs, co, 114 jts 2 3/8 ws tbg. Csg scraper @ 3627' (KB). Set reverse unit & fill w/PW. Circ dwn csg & out tbg w/120 bbls PW. Recovered 1 small piece of scale. Wellbore appears to be clean. Gaining fluid in pit as we circ. SWI. SDFN.

04/20/10 500# on well. Bleed well dwn. Pull 56 std, co, bump sub, co, 1 jt tbg, co, 4 1/2 csg scraper, 4 3/4 bit. RIH w/2 3/8" x 4 1/2" PC AD-1 tension pkr, 56 std & 1 jt. Set pkr @ 3584' (KB). Close pipe rams & run chart. Good 30 min chart @ 500#. POOH, LD workstring. RIH w/2 3/8" x 4 1/2" PC AD-1 tension pkr & 112 jts 2 3/8" J55 8rd tbg. SWI. SDFN. Pkr is hanging @ 3583' (KB).

04/21/10 500# on well. Bleed well dwn. Strip off BOP. Flange up. Pmp 60-bbls 2% KCL pkr fluid. Set pkr @ 3583' (KB). Flange up & test, leaked. Pulled up hole 61 & tested, leaked. Pull 1 jt & test, held, we are over 100' above top perf, run in 20' & test @ 3560' (KB), looks good. Ordered 20' of PC sub to get pkr set in correct OCD requirements. LD 1 jt. PU & RIH 4' x 2-8' x 2 3/8 PC sub. Set pkr @ 3560' (KB). Flange up & run chart for OCD, passed. RU pmp truck on tbg. Establish rate of 1.3 BPM @ 1200#. Pmp 20 bbls KCL water. Release pmp truck. RDMOWSU. Load & move workstring & racks to next well. Release all equipment.

09/12/12 Drove to location w/pmp truck, tied onto inj well & pmpd 20 BW @ 1.5 bbls @ 1280#. Starting TP 600#, ending TP 1120#, CP 0# & max pressure 1320#.