

Submit 1 Copy To Appropriate District Office  
 District I - (575) 393-6161  
 1625 N. French Dr., Hobbs, NM 88240  
 District II - (575) 748-1283  
 811 S. First St., Artesia, NM 88210  
 District III - (505) 334-6178  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 District IV - (505) 476-3460  
 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
 Energy, Minerals and Natural Resources

Form C-103  
 Revised July 18, 2013

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

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.)		WELL API NO. 30-025-41731
1. Type of Well: Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator CHEVRON U.S.A. INC.		6. State Oil & Gas Lease No.
3. Address of Operator 15 SMITH ROAD, MIDLAND, TEXAS 79705		7. Lease Name or Unit Agreement Name GRAMMA RIDGE 14 24 34
4. Well Location Unit Letter: D 330 feet from NORTH line and 340 feet from the WEST line Section 14 Township 24S Range 34E NMPM County LEA		8. Well Number 2H
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3508' GL		9. OGRID Number 4323
10. Pool name or Wildcat RED HILLS; BONE SPRING, NORTH		

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

<b>NOTICE OF INTENTION TO:</b> PERFORM REMEDIAL WORK <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input type="checkbox"/> PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPL <input type="checkbox"/> DOWNHOLE COMMINGLE <input type="checkbox"/> CLOSED-LOOP SYSTEM <input type="checkbox"/> OTHER:		<b>SUBSEQUENT REPORT OF:</b> REMEDIAL WORK <input type="checkbox"/> ALTERING CASING <input type="checkbox"/> COMMENCE DRILLING OPNS. <input type="checkbox"/> P AND A <input type="checkbox"/> CASING/CEMENT JOB <input type="checkbox"/> OTHER: NEW WELL COMPLETION	
---	--	--	--

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 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

*Summary Report attached*

9-13-14: MIRU FRAC.  
 9/14/14: PERE 15162-15383. SPOT 3000 GALS 15% FE HCl & 12,020 GALS TRTD WTR, 15.8BPM @ 170 FPM. FRAC. TOTAL PROP: 461,128 LBS, 20/40 PREM WHITE: 396,125 LBS, 16/30 CRC RESIN: 65,002.  
 9/15/14: PERF 15,107-14,884'. SPOT 3000 GALS 15% FE HCl. FRAC. TOTAL PROP: 305,114 LBS, 20/40 PREM WHITE: 263,198 LBS, 16/30 CRC RESIN: 41,915  
 PERF: 14,829-14,606. SPOT 3000 GALS 15 FE HCl. FRAC. TOTAL PROP: 249,523 LBS, 20/40 PREM WHITE: 182,920 LBS, 16/30 CRC RESIN: 66,590.  
 PERF: 14,328-14,551'. SPOT 3000 GALS 15% FE HCl. FRAC. TOTAL PROP: 317,431 LBS, 30/50 PREM WHITE: 232,376 LBS, 20/40 PREM WHITE: 49,993 LBS, 16/30 CRC RESIN: 35,062.  
 PERF: 14,273-14,050. SPOT 3000 GALS 15% FE HCl. FRAC. TOTAL PROP: 311,630 LBS, 30/50 PREM WHITE: 272,660 LBS, 20/40 PREM WHITE: 0 LBS, 16/30 CRC RESIN: 38,970.  
 PERF: 13,772-13,993. SPOT 3000 GALS 15% FE HCl. FRAC. TOTAL PROP: 301,750 LBS, 30/50 PREM WHITE: 255,900 LBS, 20/40 PREM WHITE: 0 LBS. 16/30 CRC RESIN: 45,850  
 PERF: 13,494-13,715. SPOT 3000 GALS 15% FE HCl. FRAC. TOTAL PROP: 306,310 LBS, 30/50 PREM WHITE: 262,410 LBS, 20/40 PREM WHITE: 0 LBS, 16/30 CRC RESIN: 43,900.

Spud Date:  Rig Release Date:

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

SIGNATURE *Denise Pinkerton* TITLE REGULATORY SPECIALIST DATE 12/17/2014  
 Type or print name DENISE PINKERTON E-mail address: leakejd@chevron.com PHONE: 432-687-7375  
 For State Use Only  
 APPROVED BY: *[Signature]* TITLE **Petroleum Engineer** DATE 03/06/15 *DM*

MAR

Continuation for completion of Gramma Ridge 14 24 34 #2H

PERF: 13,216-13,439. SPOT 3000 GALS 20% FE HCl. FRAC. TOTAL PROP: 282,951 LBS, 30/50 PREM WHITE: 241,674 LBS, 20/40 PREM WHITE: 0 LBS, 16/30 CRC RESIN: 41,277 LBS.

PERF: 12,938-13,161. SPOT 3000 GALS 20% FE HCl. FRAC. TOTAL PROP: 313,478 LBS, 30/50 PREM WHITE: 273,186 LBS, 20/40 PREM WHITE: 0 LBS, 16/30 CRC RESIN: 40,292 LBS.

PERF: 12,660-12,883. SPOT 3000 GALS 20% FE HCl. FRAC. TOTAL PROP: 329,922 LBS, 30/50 PREM WHITE: 283,125 LBS, 20/40 PREM WHITE: 0 LBS, 16/30 CRC RESIN: 46,796 LBS.

PERF: 12,382-12,605. SPOT 3000 GALS 20% FE HCl. FRAC. TOTAL PROP: 163,780 LBS, 30/50 PREM WHITE: 137,060 LBS, 20/40 PREM WHITE: 0 LBS, 16/30 CRC RESIN: 26,720 LBS.

PERF: 12,104-12,431. SPOT 3000 GALS 20% FE HCl. FRAC. TOTAL PROP: 393,820 LBS, 30/50 PREM WHITE: 321,930 LBS, 20/40 PREM WHITE: 0 LBS. 16/30 CRC RESIN: 71,890 LBS.

09/26/2014: SET 2 7/8" TBG @ 9929 (TUBING SUMMARY ATTACHED).

09/26/2014: RELEASE RIG

11/19/2014 THROUGH 12/01/2014 : PUMP REPAIR.  
2 7/8" TBG SET @ 10,411. (TUBING SUMMARY ATTACHED).

10/25/2014: ON 24 HR OPT. PUMPING 332 OIL, 465 GAS, & 881 WATER, G04-1400.

---



# Summary Report

Completion Complete  
Job Start Date: 8/8/2014  
Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

<b>Report Start Date:</b> 8/8/2014	Com
HSM & PJSA w/ Trend, Hobbs anchors. Discuss Scope of Job, SWA, TIF, ERP, Tenet #8 We always address abnormal conditions, spotters while backing, no spill policy, pinch points and heat	
Trend move in set-up 1 Company man trailer and 1 safety trailer and auxillary equipment.	
Hobbs set rig anchors.	
<b>Report Start Date:</b> 8/9/2014	Com
No Activity. Carry Costs only.	
<b>Report Start Date:</b> 8/10/2014	Com
No Activity. Carry Costs only.	
<b>Report Start Date:</b> 8/11/2014	Com
No Activity. Carry Costs only.	
<b>Report Start Date:</b> 8/12/2014	Com
No Activity. Carry Costs only.	
<b>Report Start Date:</b> 8/13/2014	Com
No Activity. Carry Costs only.	
<b>Report Start Date:</b> 8/14/2014	Com
No Activity. Carry Costs only.	
<b>Report Start Date:</b> 8/15/2014	Com
No Activity. Carry Costs only.	
<b>Report Start Date:</b> 8/16/2014	Com
No Activity. Carry Costs	
<b>Report Start Date:</b> 8/17/2014	Com
No Activity. Carry Costs	
<b>Report Start Date:</b> 8/18/2014	Com
No Activity. Carry Costs	
<b>Report Start Date:</b> 8/19/2014	Com
No Activity. Carry Costs	
<b>Report Start Date:</b> 8/20/2014	Com
No Activity. Carry Costs	
<b>Report Start Date:</b> 8/21/2014	Com
No Activity. Carry Costs	
<b>Report Start Date:</b> 8/22/2014	Com
Operations suspended, carry costs.	
<b>Report Start Date:</b> 8/23/2014	Com
Operations Suspended, Carry Costs	
<b>Report Start Date:</b> 8/24/2014	Com
Pre Job Safety Meeting - Tenet #4 - Always follow safe work practices and procedures. Discuss the near miss on the skeen, and how it applies to their job - Staying out of the line of fire while setting / moving tanks.	
Set Frac Tanks	
<b>Report Start Date:</b> 8/25/2014	Com
Operations Suspended, Carry Costs	
<b>Report Start Date:</b> 8/26/2014	Com
Operations Suspended, Carry Costs	
<b>Report Start Date:</b> 8/27/2014	Com



# Summary Report

Completion  
Complete

Job Start Date: 8/8/2014  
Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

Com
Operations Suspended, Carry Costs
<b>Report Start Date: 8/28/2014</b>
Com
Pre job safety meeting
Rig up water transfer lines.
<b>Report Start Date: 8/29/2014</b>
Com
Deliver forklift/manlift/lightplants
Operations suspended, Carry Costs
<b>Report Start Date: 8/30/2014</b>
Com
PJSM - Discuss different operations - unloading equipment, setting up containment, spotting tanks. Discuss hazards - lifting, traffic, pinch / crush points.
Setup Containment, Set open tops, flowback tanks
<b>Report Start Date: 8/31/2014</b>
Com
Prejob safety meeting - Tenant #1 - Always operate within design and environmental limits. Discuss TIF, SWA. Discuss operations for today - NU / Test Frac Stack, Test Annulus. Discuss Hazards: Pressures, overhead lifts / crush / pinch points.
NU 7 1/16 10K Lower Master
Pull BPV, Install TWC and flow sub WHP: 0 psi
Test lower master Low: 250 psi High: 8500 psi - Test good
Pull TWC and flow sub
NU 7 1/16 10K Hydraulic Master, Flow Cross, Crown Valve, Night Cap.
NOTE: Goat head will be used Red Hills 2-25-33 3H
Fill Annulus with 3 bbl water Test low - 250 psi Test high - 500 psi Test good,
Finish rigging up flowback iron to open top tanks. Spot command trailer, accumulator. Run hoses, function test all valves
Pull road crossing from pond for rig move. Finish rigging up water transfer on location/
Pressure test flowback / frac stack. Check for leaks - change out plug valves. Bonnet on hydraulic master started leaking on high test. Tightened bolts - retested.
Pressure test low - 300 psi Pressure test high - 8500 psi
Decision made to replace hydraulic master.
Secure well for night.
<b>Report Start Date: 9/1/2014</b>
Com
Prejob safety meeting - Tenant #1 - Always operate within design and environmental limits. Discuss TIF, SWA. Discuss operations for today - Replace Hydraulic Valve, Test Frac Stack, Open RSI. Discuss Hazards: Pressures, overhead lifts / crush / pinch points. Discuss Heat / staying hydrated
RU Crane, ND Frac Stack, Hydraulic Valve. Wait on new valve to arrive
Prejob safety meeting - Tenant #1 - Always operate within design and environmental limits. Discuss TIF, SWA. Discuss operations for today - Replace Hydraulic Valve, Test Frac Stack, Open RSI. Discuss Hazards: Pressures, overhead lifts / crush / pinch points. Discuss Heat / staying hydrated
Spot CUDD pump trucks, start rig up hoses, iron NU Hydraulic Valve, NU Frac Stack Reconnect Hoses, function test valves



# Summary Report

Completion  
Complete

Job Start Date: 8/8/2014

Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

Com

**Pressure Test Flowback / Frac Stack**

250 psi low  
8500 psi high - good

Rig up Cudd to flowcross  
Pressure Test  
250 psi low  
8500 psi high - good

**Open Well**

Pressure Up to 5000 psi - hold 5 min  
Pressure Up to 5500 psi - hold 3 min  
Pressure Up to 8562 psi - hold 40 min  
RSI Opened, Pressure dropped from 8534 to 4062 psi in 5 min  
Start pumping into well  
5 bpm - 5900 psi - 13 bbls total  
7 bpm - 6185 psi - 30 bbls total  
7.4 bpm - 6370 psi - 46 bbls total  
9.7 bpm - 6762 psi - 63 bbl total  
11.3 bpm - 7026 psi - 112 bbl total  
Shut-Down,  
ISIP: 5300 psi  
5 min: 3969 psi  
10 min: 3946 psi  
15 min: 3923 psi  
Secure well  
RD CUDD, WW Wireline

**Report Start Date:** 9/2/2014

Com

No Activity - Cost update only

**Report Start Date:** 9/3/2014

Com

No Activity

Set additional trailer house

No activity

**Report Start Date:** 9/4/2014

Com

No Activity - Cost update only

**Report Start Date:** 9/5/2014

Com

Well shut in - No activity

Received acid tanks

Well shut in - No activity

**Report Start Date:** 9/6/2014

Com

Well shut in - No activity

Set containment for additional acid tank. Spotted final acid tank. Found broken union on tank. Sent tank out for replacement. Received sand castle. Begin pre-filling acid tanks w/ mix water.

Well shut in - No activity

**Report Start Date:** 9/7/2014

Com

Well shut in - No activity

PJSM - Discussed Tenet 7 (Always comply with all applicable rules and regulations), location traffic, rainy weather, slick surfaces, truck backing, spotters, climbing, hand & body placement, working w/ acid, PPE, Emergency Response, 4 pts, communication, SWA.

Mixed & loaded 732 bbls, 20%, HCl w/ inhibitors & surfactant

Well shut in - No activity

**Report Start Date:** 9/8/2014

Com

No Activity - Cost update only

**Report Start Date:** 9/9/2014

Com

No Activity - Cost update only

**Report Start Date:** 9/10/2014

Com

No Activity - Cost update only



# Summary Report

Completion

Complete

Job Start Date: 8/8/2014

Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

**Report Start Date:** 9/11/2014

Com

No Activity - Cost update only

**Report Start Date:** 9/12/2014

Com

Well shut in. No activity

PJSM - Discussed Tenet 2 (Always operate in a safe and controlled condition), inclement weather, deep water, walking & slick surfaces, location traffic, truck backing, spotters, walking w/ loads, forklift safety, communication, 4 Pts, emergency response, SWA.

Move in and spot sand castles & mountain movers. Spot sand belt. Begin RU containment. Start unloading sand trucks.

**Report Start Date:** 9/13/2014

Com

Continue laying containment and unloading sand chiefs.

PJSM - Discussed Tenet 3 (Always ensure safety devices are in place and functioning), inclement weather, deep water, walking & slick surfaces, location traffic, truck backing, spotters, walking w/ loads, forklift safety, communication, 4 Pts, emergency response, SWA.

PJSM w/ Hal frac, Hal crane, OTG, CasedHole, EPS, and Fesco. Go over JSA's, Tenet, Hazards, TIF. Review muster points, use of good communications, staying hydrated and use of SWA.

MIRU Hal frac equipment. R/U pumps and iron. Continue filling sand castles and movers.

MIRU CasedHole E-line.

Continue to R/U water transfer lines.

N/D crown valve.

N/U goat head and crown valve

Low 500 psi/ high 8500 psi. Hold for 5 minutes each. Both test pass.

N/U 10k wireline BOP

Continue R/U of Hal frac equipment.

**Report Start Date:** 9/14/2014

Com

Continue rigging up Halliburton Frac Crew.

PJSM w/ Hal frac crew and associated business partners. Go over Tenet, Hazard, TIF, muster points, good communication skills, importance of staying hydrated, sign in/sign out sheet, Review use of SWA.

Continue to R/U frac equipment.

Prime and test surface equipment.

Set N2 pop off at 8300. Test to 8240 psi

Set backside pop off (5-1/2 x 9-5/8 csg) to 1500. Test to 1500 psi.

Arm guns, R/U lubricator and test to 6000 psi. Test pass.

SICP: 3150 psi

Perf Stage #2 Bonesprings F/ 15162'-15383'

Open well

RIH, get on depth w/ CCL and short joint @ 10,608' . Pump down spotting 3000 gal 15% FE HCl and 12,020 gal treated water @ 15.8 bpm @ 170 fpm. SD pumps.

Gun assy: Baker 20 setting tool, 3 1/8" guns @ 6 spf, 60 degree phasing, 19 gm, GEO-Dynamics-Basix.

Perforate as follows:

15,383'-15,385' 6 spf 12 shots 19 gm 60 degree phase

15,326'-15,328' 6 spf 12 shots 19 gm 60 degree phase

15,272'-15,273' 6 spf 6 shots 19 gm 60 degree phase

15,217'-15,218' 6 spf 6 shots 19 gm 60 degree phase

15,162'-15,163' 6 spf 6 shots 19 gm 60 degree phase

POOH, all shots fired, 42 total holes.

Note: POOH, running CCL to ~100' above marker joint (10,608') for correlation.

Note: PJSM w/ night shift frac crew and business partners held at 1800.



# Summary Report

Completion  
Complete  
Job Start Date: 8/8/2014  
Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

Com

Frac Stages 1 and 2 together:

Frac Stage #1 and 2 F/15,440' 15,162' – 15,385'

Shut-in Wellhead PSI = 3,200 psi  
 Breakdown: 5,625 psi  
 Max Rate: 81 BPM  
 Avg Rate: 68 BPM  
 Max Pressure: 7,757 psi  
 Avg Pressure: 6,810 psi  
 Total Prop: 461,128 lbs  
 20/40 Premium White: 396,125 lbs  
 16/30 CRC Resin: 65,002  
 Max Prop Conc.: 4.7 ppg  
 Hybor G 10#: 3,758 bbls  
 Slick Water: 3,397 bbls  
 15% FE Acid: 71 bbls  
 Load To Recover: 7,226bbls  
 ISIP: 4,061 psi  
 5 min: 3,815  
 FG: 0.80 psi/ft

All designed frac and perf ops completed.

Had to swap out the pump down blender before getting ready to perforate.

Wait on Halliburton to change out pump down blender before we got wireline on the well.

**Report Start Date:** 9/15/2014

Com

SICP: 3,400 psi

Perf Stage #3 (2nd Bonesprings F/ 15,107'-14,884')

Open well

RIH, get on depth w/ CCL and short joint @ 10,608' . Pump down spotting 3000 gal 15% FE HCl and 11810 gal treated water @ 15 bpm @ 190 fpm. Set Halliburton 4.375" Obsidian 8K caged ball frac plug @ 15134'. Line tension 1462 lbs prior to plug set/1350 lbs after plug set. Pressure up psi. P/U and perforate, pumping 2 bpm.

Gun assay: Baker 20 setting tool, 3 1/8" guns @ 6 spf, 60 degree phasing, 19 gm, GEO-Dynamics-Basix.

Perforate as follows:

15,105'-15,107'	6 spf	12 shots	19 gm	60 degree phase
15,048'-15,050'	6 spf	12 shots	19 gm	60 degree phase
14,994'-14,995'	6 spf	6 shots	19 gm	60 degree phase
14,939'-14,940'	6 spf	6 shots	19 gm	60 degree phase
14,884'-14,885'	6 spf	6 shots	19 gm	60 degree phase

POOH, all shots fired, 42 total holes.



# Summary Report

Completion  
Complete

Job Start Date: 8/8/2014

Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

Com

## Frac Stage #3 (2nd Bonesprings F/15,107' - 14,884')

Shut-in Wellhead PSI = 3,900 psi  
 Breakdown: 5,567 psi  
 Max Rate: 73 BPM  
 Avg Rate: .69 BPM  
 Max Pressure: 7,591 psi  
 Avg Pressure: 6,300 psi  
 Total Prop: 305,114 lbs  
 20/40 Premium White: 263,198 lbs  
 16/30 CRC Resin: 41,915  
 Max Prop Conc.: 4.7 ppg  
 Hybor G 10# : 2,388 bbls  
 Slick Water: 2,778 bbls  
 15% FE Acid: 71 bbls  
 Load To Recover: 5,237 bbls  
 ISIP: 4,009 psi  
 5 min: 3,900 psi  
 FG: 0.80 psi/ft

While pumping stage3 (2-3 ppa Xlink) the blender lost all discharge, crew worked through the issue and was able to resume schedule as designed after pumping a casing volume.

Arm guns, R/U lubricator and test to 6000 psi. Test pass.

SICP: 3100 psi

## Perf Stage #4 (2nd Bonesprings F/ 14,829'-14,606')

Open well

RIH, get on depth w/ CCL and short joint @ 10,608' . Pump down spotting 3000 gal 15% FE HCl and 11,538 gal treated water @ 15 bpm @ 190 fpm. Set Halliburton 4.375" Obsidian 8K caged ball frac plug @ 14,850'. Line tension 1450 lbs prior to plug set/1324 lbs after plug set. Pressure up 5500 psi. P/U and perforate, pumping 2 bpm. Pump 2.5 bpm POOH w/ wireline to displace acid.

Gun assy: Baker 20 setting tool, 3 1/8" guns @ 6 spf, 60 degree phasing, 19 gm, GEO-Dynamics-Basix.

Perforate as follows:

14,827'-14,829'	6 spf	12 shots	19 gm	60 degree phase
14,770'-14,772'	6 spf	12 shots	19 gm	60 degree phase
14,716'-14,717'	6 spf	6 shots	19 gm	60 degree phase
14,661'-14,662'	6 spf	6 shots	19 gm	60 degree phase
14,606'-14,607'	6 spf	6 shots	19 gm	60 degree phase

POOH, all shots fired, 42 total holes.

Note: PJSM held w/ Hal frac crew and associated business partners for daylight tour.



# Summary Report

Completion  
Complete

Job Start Date: 8/8/2014

Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34		Field Name Red Hills North		Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014				Mud Line Elevation (ft)	Water Depth (ft)

Com

## Frac Stage #4 (2nd Bonesprings F/14,606-14,829')

Shut-in Wellhead PSI = 3150 psi  
 Breakdown: 7744 psi  
 Max Rate: 81.4 BPM  
 Avg Rate: 60 BPM  
 Max Pressure: 8111 psi  
 Avg Pressure: 7133 psi  
 Total Prop: 249,523 lbs  
 20/40 Premium White: 182,920 lbs  
 16/30 CRC Resin: 66,590  
 Max Prop Conc.: 3.76 ppg  
 Hybor G-R 15# 2,041 bbls  
 Slick Water: 2,485 bbls  
 15% FE Acid: 71 bbls  
 Load To Recover: 4598 bbls  
 ISIP: 4325 psi  
 5 min: 3902 psi  
 FG: 0.73 psi/ft

Arm guns, R/U lubricator and test to 6000 psi. Test pass.

SICP: 3100 psi

## Perf Stage #5 (2nd Bonesprings F/ 14,328'-14,551')

Open well

RIH, get on depth w/ CCL and short joint @ 10,608' . Pump down spotting 3000 gal 15% FE HCl and 11,266 gal treated water @ 15 bpm @ 200 fpm. Set Halliburton 4.375" Obsidian 8K caged ball frac plug @ 14,573'. Line tension 1280 lbs prior to plug set/1280 lbs after plug set. Pressure up 5500 psi. P/U and perforate, pumping 2 bpm. Pump 2.5 bpm POOH w/ wireline to displace acid.

Gun assy: Baker 20 setting tool, 3 1/8" guns @ 6 spf, 60 degree phasing, 19 gm, GEO-Dynamics-Basix.

Perforate as follows:

14,549' - 14,551'	6 spf	12 shots	19 gm	60 degree phase
14,492' - 14,494'	6 spf	12 shots	19 gm	60 degree phase
14,438' - 14,439'	6 spf	6 shots	19 gm	60 degree phase
14,383' - 14,384'	6 spf	6 shots	19 gm	60 degree phase
14,328' - 14,329'	6 spf	6 shots	19 gm	60 degree phase

POOH, all shots fired, 42 total holes.

Operations suspended. Waiting on 30/50 and 20/40 sand to arrive on location.

Report Start Date: 9/16/2014

Com

Waiting on Proppant



# Summary Report

Completion

Complete

Job Start Date: 8/8/2014

Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34		Field Name Red Hills North		Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014				Mud Line Elevation (ft)	Water Depth (ft)

Com

## Frac Stage #5 (2nd Bonesprings F/14,551' - 14,328')

Shut-in Wellhead PSI = 3,000 psi  
 Breakdown: 6,529 psi  
 Max Rate: 72 BPM  
 Avg Rate: 63 BPM  
 Max Pressure: 7,932 psi  
 Avg Pressure: 7,118 psi  
 Total Prop: 317,431 lbs  
 30/50 Premium White: 232,376 lbs  
 20/40 Premium White: 49,993 lbs  
 16/30 CRC Resin: 35,062  
 Max Prop Conc.: 4.7 ppg  
 Hybor G 10#: bbls  
 Slick Water: bbls  
 15% FE Acid: 71 bbls  
 Load To Recover: 5,492 bbls  
 ISIP: 4,335 psi  
 5 min: 4,090 psi  
 FG: 0.82 psi/ft

While pumping stage 5, we had to cut sand and flush well because NOV water transfer lost their transfer pump. Got pump back up and going and pumped stage to completion

SICP: 3100 psi

## Perf Stage #6 (2nd Bonesprings F/ 14,273'-14,050')

Open well

RIH, get on depth w/ CCL and short joint @ 10,608'. Pump down spotting 3000 gal 15% FE HCl and 11,538 gal treated water @ 15 bpm @ 190 fpm. Set Halliburton 4.375" Obsidian 8K caged ball frac plug @ 14,850'. Line tension 1450 lbs prior to plug set/1324 lbs after plug set. Pressure up 5500 psi. P/U and perforate, pumping 2 bpm. Pump 2.5 bpm POOH w/ wireline to displace acid.

Gun assy: Baker 20 setting tool, 3 1/8" guns @ 6 spf, 60 degree phasing, 19 gm, GEO-Dynamics-Basix.

Perforate as follows:

14,271'-14,273'	6 spf	12 shots	19 gm	60 degree phase
14,214'-14,216'	6 spf	12 shots	19 gm	60 degree phase
14,160'-14,161'	6 spf	6 shots	19 gm	60 degree phase
14,105'-14,106'	6 spf	6 shots	19 gm	60 degree phase
14,050'-14,051'	6 spf	6 shots	19 gm	60 degree phase

POOH, all shots fired, 42 total holes.

Note: PJSM held w/ Hal frac crew and associated business partners for daylight tour.



# Summary Report

Completion Complete  
Job Start Date: 8/8/2014  
Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

Com

Frac Stage #6 (2nd Bonesprings F/14,050' - 14,271')  
N2 Pop off set @ 8300 psi, Kickouts staggered 8100 - 8300, Backside pressure 600 - 800 psi

Shut-in Wellhead PSI = N/A psi  
 Breakdown: 5,544 psi  
 Max Rate: 75.5 BPM  
 Avg Rate: 65.5 BPM  
 Max Pressure: 8,054 psi  
 Avg Pressure: 7,311 psi  
 Total Prop: 311,630 lbs  
 30/50 Premium White: 272,660 lbs  
 20/40 Premium White: 0 lbs  
 16/30 CRC Resin: 38,970  
 Max Prop Conc.: 4.3 ppg  
 Hybor G 10#: 2397 bbls  
 Slick Water: 2430 bbls  
 15% FE Acid: 71.4 bbls  
 Load To Recover: 4,899 bbls  
 ISIP: 4,194 psi  
 5 min: 3,951 psi  
 FG: 0.85 psi/ft

SICP: 3800 psi

Perf Stage #7 (2nd Bonesprings F/ 13,772' - 113,993')

Open well  
 RIH, get on depth w/ CCL and short joint @ 10,608' . Pump down spotting 3000 gal 15% FE HCl and treated water @ 15 bpm @ 190 fpm. Set Halliburton 4.375" Obsidian 8K caged ball frac plug @ 14,018'. Test plug to 5500 psi. PU and perforate, pumping 3 bpm. Shut down pump after all guns fired.

Gun assy: Baker 20 setting tool, 3 1/8" guns @ 6 spf, 60 degree phasing, 19 gm, GEO-Dynamics-Basix.

Perforate as follows:

13,993 - 13,995'	6 spf	12 shots	19 gm	60 degree phase
13,936 - 13,938'	6 spf	12 shots	19 gm	60 degree phase
13,882 - 13,883'	6 spf	6 shots	19 gm	60 degree phase
13,827 - 13,828'	6 spf	6 shots	19 gm	60 degree phase
13,772 - 13,773'	6 spf	6 shots	19 gm	60 degree phase

POOH, all shots fired, 42 total holes.

Frac Stage #7 (2nd Bonesprings F/13,772' - 13,993')  
 N2 Pop off set @ 8300 psi, Kickouts staggered 8100 - 8300, Backside pressure 600 - 800 psi

Shut-in Wellhead PSI = 3450 psi  
 Breakdown: 5,697 psi  
 Max Rate: 77.3 BPM  
 Avg Rate: 61.7 BPM  
 Max Pressure: 8,071 psi  
 Avg Pressure: 7,365 psi  
 Total Prop: 301,750 lbs  
 30/50 Premium White: 255,900 lbs  
 20/40 Premium White: 0 lbs  
 16/30 CRC Resin: 45,850  
 Max Prop Conc.: 4.8 ppg  
 Hybor G 10#: 2328 bbls  
 Slick Water: 2367 bbls  
 15% FE Acid: 71.4 bbls  
 Load To Recover: 4,767 bbls  
 ISIP: 4,056 psi  
 5 min: 3,978 psi  
 FG: 0.86 psi/ft

Lost 2 pumps during frac. Unable to maintain >70 bpm



# Summary Report

Completion

Complete

Job Start Date: 8/8/2014

Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

Com

SICP: 3800 psi

Perf Stage #8 (2nd Bonesprings F/ 13,494' - 13,715')

Open well

RIH, get on depth w/ CCL and short joint @ 10,608' . Pump down spotting 3000 gal 15% FE HCl and treated water @ 15 bpm @ 190 fpm. Set Halliburton 4.375" Obsidian 8K caged ball frac plug @ 13,747'. Test plug to 5500 psi. P/U and perforate, pumping 3 bpm. Shut down pump after all guns fired.

Gun assy: Baker 20 setting tool, 3 1/8" guns @ 6 spf, 60 degree phasing, 19 gm, GEO-Dynamics-Basix.

Perforate as follows:

13,715 - 13,717'	6 spf	12 shots	19 gm	60 degree phase
13,658 - 13,660'	6 spf	12 shots	19 gm	60 degree phase
13,604 - 13,605'	6 spf	6 shots	19 gm	60 degree phase
13,549 - 13,550'	6 spf	6 shots	19 gm	60 degree phase
13,494 - 13,495'	6 spf	6 shots	19 gm	60 degree phase

POOH, all shots fired, 42 total holes.

Frac Stage #8 (2nd Bonesprings F/13,494' - 13,715')

N2 Pop off set @ 8300 psi, Kickouts staggered 8100 - 8300, Backside pressure 600 - 800 psi

Shut-in Wellhead PSI = 3800 psi

Breakdown: 7,123 psi

Max Rate: 80.3 BPM

Avg Rate: 79.6 BPM

Max Pressure: 7,724 psi

Avg Pressure: 6,466 psi

Total Prop: 306,310 lbs

30/50 Premium White: 262,410 lbs

20/40 Premium White: 0 lbs

16/30 CRC Resin: 43,900

Max Prop Conc.: 4.44 ppg

Hybor G 10#: 2307 bbls

Slick Water: 3428 bbls

15% FE Acid: 71.4 bbls

Load To Recover: 5,807 bbls

ISIP: 4,130 psi

5 min: 3,973 psi

FG: 0.86 psi/ft

Had computer issues ~ half way thru 1.0 ppg stage. Computer giving false readings indicating an instant 1000 psi pressure drop with a >5 bpm rate increase. Also showed <50% efficiency on tub. Near end of stage, went to flush. Cleared wellbore. Fixed computer problems. Pumped 5000 gal pad. Reran 1.0 ppg stage and finished remainder of Stage 8 with no issues. Used <30 minutes to correct issue. No NPT assigned.

SICP: 3785 psi

Perf Stage #9 (2nd Bonesprings 13,216' - 13,439')

Open well

RIH, get on depth w/ CCL and short joint @ 10,608' . Pump down spotting 3000 gal 20% FE HCl and treated water @ 15 bpm @ 190 fpm. Set Halliburton 4.375" Obsidian 8K caged ball frac plug @ 13,466'. Test plug to 5500 psi. P/U and perforate, pumping 3 bpm. Shut down pump after all guns fired.

Gun assy: Baker 20 setting tool, 3 1/8" guns @ 6 spf, 60 degree phasing, 19 gm, GEO-Dynamics-Basix.

Perforate as follows:

13,437' - 13,439'	6 spf	12 shots	19 gm	60 degree phase
13,380' - 13,382'	6 spf	12 shots	19 gm	60 degree phase
13,326' - 13,327'	6 spf	6 shots	19 gm	60 degree phase
13,271' - 13,272'	6 spf	6 shots	19 gm	60 degree phase
13,216' - 13,217'	6 spf	6 shots	19 gm	60 degree phase

POOH, all shots fired, 42 total holes.



# Summary Report

Completion

Complete

Job Start Date: 8/8/2014

Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

Com

Frac Stage #9 (2nd Bonesprings 13,216' - 13,439')  
 N2 Pop off set @ 8,300 psi, Kickouts staggered 8,100 - 8,300, Backside pressure 600 - 800 psi

Shut-in Wellhead PSI = 3,630 psi  
 Breakdown: 5,670 psi  
 Max Rate: 87.2 BPM  
 Avg Rate: 80.1 BPM  
 Max Pressure: 7,866 psi  
 Avg Pressure: 6,550 psi  
 Total Prop: 282,951 lbs  
 30/50 Premium White: 241,674 lbs  
 20/40 Premium White: 0 lbs  
 16/30 CRC Resin: 41,277 lbs  
 Max Prop Conc.: 4.22 ppg  
 Hybor G 15# : 2,343.3 bbls  
 Slick Water: 2,627.3 bbls  
 20% FE Acid: 71.4 bbls  
 Load To Recover: 5,043 bbls  
 ISIP: 4,238 psi  
 5 min: 4,046 psi  
 FG: 0.82 psi/ft

SICP: 3,800 psi

Perf Stage #10 (2nd Bonesprings 12,938' - 13,161')

Open well

RIH, get on depth w/ CCL and short joint @ 10,608' . Pump down spotting 3000 gal 20% FE HCl and treated water @ 15 bpm @ 190 fpm. Set Halliburton 4.375" Obsidian 8K caged ball frac plug @ 13,188'. Test plug to 5500 psi. P/U and perforate, pumping 3 bpm. Shut down pump after all guns fired.

Gun assy: Baker 20 setting tool, 3 1/8" guns @ 6 spf, 60 degree phasing, 19 gm, GEO-Dynamics-Basix.

Perforate as follows:

13,159' - 13,161' 6 spf 12 shots 19 gm 60 degree phase  
 13,102' - 13,104' 6 spf 12 shots 19 gm 60 degree phase  
 13,048' - 13,049' 6 spf 6 shots 19 gm 60 degree phase  
 12,993' - 12,994' 6 spf 6 shots 19 gm 60 degree phase  
 12,938' - 12,939' 6 spf 6 shots 19 gm 60 degree phase

POOH, all shots fired, 42 total holes.

Begin Stage #10 Frac

Report Start Date: 9/17/2014

Com

Frac Stage #10 (2nd Bonesprings 12,938' - 13,161')  
 N2 Pop off set @ 8,300 psi, Kickouts staggered 8,100 - 8,300, Backside pressure 600 - 800 psi

Shut-in Wellhead PSI = 3,630 psi  
 Breakdown: 7,842 psi  
 Max Rate: 86.8 BPM  
 Avg Rate: 82.5 BPM  
 Max Pressure: 7,829 psi  
 Avg Pressure: 7,188 psi  
 Total Prop: 313,478 lbs  
 30/50 Premium White: 273,186 lbs  
 20/40 Premium White: 0 lbs  
 16/30 CRC Resin: 40,292 lbs  
 Max Prop Conc.: 4.73 ppg  
 Hybor G 15# : 2299.5 bbls  
 Slick Water: 2329.6 bbls  
 20% FE Acid: 71.4 bbls  
 Load To Recover: 4701 bbls  
 ISIP: 4,199 psi  
 5 min: 4,008 psi  
 FG: 0.81 psi/ft



# Summary Report

Completion  
Complete

Job Start Date: 8/8/2014

Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gamma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

Com

SICP: 3,800 psi

Perf Stage #11 (2nd Bonesprings 12,660' - 12,883')

Open well

RIH, get on depth w/ CCL and short joint @ 10,608' . Pump down spotting 3000 gal 20% FE HCl and treated water @ 15 bpm @ 190 fpm. Set Halliburton 4.375" Obsidian 8K caged ball frac plug @ 12,910'. Test plug to 5500 psi. P/U and perforate, pumping 3 bpm. Shut down pump after all guns fired.

Gun assy: Baker 20 setting tool, 3 1/8" guns @ 6 spf, 60 degree phasing, 19 gm, GEO-Dynamics-Basix.

Perforate as follows:

12,881' - 12,883'	6 spf	12 shots	19 gm	60 degree phase
12,824' - 12,826'	6 spf	12 shots	19 gm	60 degree phase
12,770' - 12,771'	6 spf	6 shots	19 gm	60 degree phase
12,715' - 12,716'	6 spf	6 shots	19 gm	60 degree phase
12,660' - 12,661'	6 spf	6 shots	19 gm	60 degree phase

POOH, all shots fired, 42 total holes.

Frac Stage #11 (2nd Bonesprings 12,660' - 12,883')

N2 Pop off set @ 8,300 psi, Kickouts staggered 8,100 - 8,300, Backside pressure 600 - 800 psi

Shut-in Wellhead PSI = 3,673 psi

Breakdown: 7,603 psi

Max Rate: 86 BPM

Avg Rate: 81 BPM

Max Pressure: 7,995 psi

Avg Pressure: 7,139 psi

Total Prop: 329,922lbs

30/50 Premium White: 283,125 lbs

20/40 Premium White: 0 lbs

16/30 CRC Resin: 46,796 lbs

Max Prop Conc.: 4.7 ppg

Hybor G 15#: 2474 bbls

Slick Water: 2305 bbls

20% FE Acid: 71.4 bbls

Load To Recover: 4,851 bbls

ISIP: 4,300 psi

5 min: 4,182 psi

FG: 0.82 psi/ft

SICP: 3,800 psi

Perf Stage #12 (2nd Bonesprings 12,382' - 12,605')

Open well

RIH, get on depth w/ CCL and short joint @ 10,608' . Pump down spotting 3000 gal 20% FE HCl and treated water @ 15 bpm @ 190 fpm. Set Halliburton 4.375" Obsidian 8K caged ball frac plug @ 12,632'. Test plug to 5500 psi. P/U and perforate, pumping 3 bpm. Tools were stuck after perforating 3rd gun @ 12,492'. Attempted to work tools free by pulling on line & by surging well to tank several times. Unable to work loose. Pulled ~200# tension on line & fired 4th gun in attempt to jar tools free. No success. Fired 5th gun w/ ~300# tension while pumping 6.0 bpm. Tools still stuck. Slacked off on line. Mixed & pumped 50 bbls, 20 ppg, 18 vis gel sweep at 20 bpm. With sweep @ ~10,000', tools began to slide downhole. Shut down pumps. POOH w/ all tools.

Note: All guns perforated throughout the job have been perforated on the fly.

Gun assy: Baker 20 setting tool, 3 1/8" guns @ 6 spf, 60 degree phasing, 19 gm, GEO-Dynamics-Basix.

Perforate as follows:

12,603' - 12,605'	6 spf	12 shots	19 gm	60 degree phase
12,546' - 12,548'	6 spf	12 shots	19 gm	60 degree phase
12,492' - 12,493'	6 spf	6 shots	19 gm	60 degree phase
12,490' - 12,491'	6 spf	6 shots	19 gm	60 degree phase
12,487' - 12,488'	6 spf	6 shots	19 gm	60 degree phase

POOH, all shots fired, 42 total holes. Layed down tools and re-head rope socket.



# Summary Report

Completion  
Complete

Job Start Date: 8/8/2014

Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

Com

Re-design and frac Stage #12 (2nd Bonesprings 12,487' - 12,605')  
N2 Pop off set @ 8,300 psi, Kickouts staggered 8,100 - 8,300, Backside pressure 900 psi

Shut-in Wellhead PSI = 3,650 psi  
 Breakdown: 7,516 psi  
 Max Rate: 80.1 BPM  
 Avg Rate: 57.5 BPM  
 Max Pressure: 8,085 psi  
 Avg Pressure: 7,223 psi  
 Total Prop: 163,780 lbs  
 30/50 Premium White: 137,060 lbs  
 20/40 Premium White: 0 lbs  
 16/30 CRC Resin: 26,720 lbs  
 Max Prop Conc.: 4.7 ppg  
 Hybor G 15# : 1660 bbls  
 Slick Water: 1537 bbls  
 20% FE Acid: 71.4 bbls  
 Load To Recover: 3,328 bbls  
 ISIP: 4,360 psi  
 5 min: 4,006 psi  
 FG: 0.83 psi/ft

SICP: 3,800 psi

Perf Stage #13 (2nd Bonesprings 12,104' - 12,431')

Open well  
 RIH, get on depth w/ CCL and short joint @ 10,608' . Pump down spotting 3500 gal 20% FE HCl and treated water @ 15 bpm @ 190 fpm. Set Halliburton 4.375" Obsidian 8K caged ball frac plug @ 12,445'. Test plug to 5500 psi. P/U and perforate, pumping 3 bpm. Shut down pump after all guns fired.

Gun assy: Baker 20 setting tool, 3 1/8" guns @ 6 spf, 60 degree phasing, 19 gm, GEO-Dynamics-Basix.

Perforate as follows:

12,429' - 12,431'	6 spf	12 shots	19 gm	60 degree phase
12,382' - 12,384'	6 spf	12 shots	19 gm	60 degree phase
12,325' - 12,326'	6 spf	6 shots	19 gm	60 degree phase
12,268' - 12,269'	6 spf	6 shots	19 gm	60 degree phase
12,214' - 12,215'	6 spf	6 shots	19 gm	60 degree phase
12,159' - 12,160'	6 spf	6 shots	19 gm	60 degree phase
12,104' - 12,105'	6 spf	6 shots	19 gm	60 degree phase

POOH, all shots fired, 54 total holes.

Re-design and frac Stage #13 (2nd Bonesprings 12,104' - 12,431')  
 N2 Pop off set @ 8,300 psi, Kickouts staggered 8,100 - 8,300, Backside pressure 900 psi

Shut-in Wellhead PSI = 3,600 psi  
 Breakdown: 7,280 psi  
 Max Rate: 82.6 BPM  
 Avg Rate: 78.5 BPM  
 Max Pressure: 8,117 psi  
 Avg Pressure: 6,151 psi  
 Total Prop: 393,820 lbs  
 30/50 Premium White: 321,930 lbs  
 20/40 Premium White: 0 lbs  
 16/30 CRC Resin: 71,890 lbs  
 Max Prop Conc.: 4.86 ppg  
 Hybor G 15# : 3270 bbls  
 Slick Water: 2425 bbls  
 20% FE Acid: 71.4 bbls  
 Load To Recover: 5,778 bbls  
 ISIP: 4,300 psi  
 5 min: N/A psi  
 FG: 0.84 psi/ft

Door on sand king plugged w/ ~80% of 3-4 ppg 30/50 sand stage and lost all sand. When crew unplugged sand king, the sand belt was overloaded and stopped the belt. Pumped >1 hole volume gelled fluid @ ~80 bpm w/ no sand. When belt came back on line, sand density was ~4.5 ppg. Continued & finished stage at rate w/ no appreciable pressure change.



# Summary Report

Completion Complete  
Job Start Date: 8/8/2014  
Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

Com

Post Job Safety Meeting - Discussed multi-contractor ops, footing, hand & body placement, striking hazards, lifting & rigging, walking w/ loads, communication, snakes.

Total Job Volumes:

Slickwater: 31,240 bbls  
Hybor G (15): 29,555 bbls  
Acid: 864 bbls  
20/40 Sand: 892,236 lbs  
30/50 Sand: 2,280,321 lbs  
16/30 Resin: 564,264 lbs

Total Load to Recover: 61,725 bbls

Begin rig down & release all frac equipment. Rig down restraints. Removed crown valve & goat head. NU crown valve. Begin cleaning containment.

Report Start Date: 9/18/2014

Com

Finish cleaning frac containment. Move excess equipment off location. Set containment ff CTU.

PJSM - Discussed Tenet 8 (Always address abnormal conditions), adverse weather conditions, location traffic, slick surfaces, standing water, walking w/ loads, spotters, truck backing, climbing, overhead work, dropped objects, suspended loads, PTW, hand & body placement, striking hazards, parking & idling guidelines, pressure & spill control, line restraints, rotating equipment, communication, 4 Pts, Emergency Response, SWA.

Move in, spot & rig up Baker 2" CTU. Function test BOP's. MU 2.88" CT connector. Pull tested to 20K & 25K. Loaded CT. Pressure tested to 2500 psi. Function tested motor @ 3000 psi @ 2.5 bpm. Tested lubricator to 5000 psi.

Length	OD	ID	Description
1.23	2.88	1.50	CT Connector
1.94	2.88	1.00	Dual Flapper BPV
6.45	2.88	0.81	Global Jars
2.02	2.88	0.71	Hyd Disconnect
1.37	2.88	0.53	Circ Sub
5.14	2.88	xx	Hydro Pull
10.60	2.88	xx	X-Treme Motor
0.82	3.70	1.38	XO Sub
0.50	4.65	xx	ShredR Bit

SIWHP 3100 psi. RIH w/ CT & BHA pumping 0.5 bpm (slick water w/ 0.5 gal FR / 10 bbl, 30 vis). Increased rate to 1.0 bpm @ 3,500'. Increased rate to 2.8 bpm @ 8,500'.

Had minimal weight loss @ 12,445' (1st plug depth) and ~1000# weight loss @ 12,632' (2nd plug depth). Did not have solid tag until 12,863'. Appeared to be 1st plug. Milled thru and appeared to mill 2nd plug @ 12,871'. Milled and washed down to plug 3 @ 12,910'. Milled and washed down to Plug 4 @ 13,188'. Milled and continued down hole. Tagged plug 5 @ 13,466'. Pumped 10 bbl (85 vis) gel sweep after each plug & at tag on plug 5. Pulled up hole and made short trip to 9850' (28' above KOP). Maintained 2.8 bpm circulating rate w/ 3.1 - 3.4 bpm returns.

Plug 1 17 min  
Plug 2 10 min  
Plug 3 13 min  
Plug 4 7 min

Report Start Date: 9/19/2014

Com

Finish short trip. RBIH. Drilled out plugs 5 thru 8. Tagged plug 9. Short trip to 9,900'. RBIH. Drilled plugs 9 thru 11. Plug 9 moved down hole immediately at tag after short trip. Tagged RSI sleeve @ 15,442'.

Pumped 10 bbl dyed sweep after each plug. Pumped 20 bbl dyed sweep @ RSI. Pumped 10 bbl sweep at heel each trip. All sweeps accounted for and recovered. Coil Chem pumped 0.5 gal / 10 bbl FR throughout job. Sweeps were 4.0 gal / 10 bbl FR. Estimated sand recovered during cleanout - 50,000#. Majority of sand recovered appeared to be 20/40 White and majority of sand was recovered during final 3 sweeps. Had significant plug parts recovered during entire drillout.

Plug 5 14 min  
Plug 6 8 min  
Plug 7 5 min  
Plug 8 11 min  
Plug 9 0 min  
Plug 10 2 min  
Plug 11 6 min

POOH w/ CT & tools.

Note: Had to repair pin on level wind during 2nd short trip. No NPT shown. <1Hr to fix.

Layed down BHA. Cut off CT Connector. Had moderate / normal wear on bit. Bearings still tight.

Rigged down CTU. Prep'd flowback equipment. Transferred fluid out of flowback tanks.

Open well on 12/64" and flowback/monitor well to OTT.. Well flowing 1445 b/d, 2512 psi, cum bbls - 240 on 12/64 choke.



# Summary Report

Completion  
Complete

Job Start Date: 8/8/2014  
Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

**Report Start Date:** 9/20/2014

Com

Flowing well to OTT w/ 24 hr supervision.

\*\*\*\*00:00 - Choke @ 12/64". Final - TBG- 2512 psi @ 60 B/HR.  
 \*\*\*\*04:00 - Change choke to 14/64". Final - TBG-2358 psi @ 77.22 B/HR  
 \*\*\*\*09:00 - Change choke to 16/64". Final - TBG- 2320 @ 100.32 B/HR.. Cl=41,000 ppm.  
 \*\*\*\*16:00 - Change choke to 18/64". Final TBG-2115 @ 1116 B/HR.  
 \*\*\*\*20:00- Change choke to 20/64". Current pressure 1942 @ 116 B/HR.

24 hr fluid recovery:3,103 bbls  
 24 hr left to recover: 58147 bbls  
 24 hr oil recovery: 0 bbls  
 Gas rate - 0  
 H2S None  
 Chlorides: 40,000

**Report Start Date:** 9/21/2014

Com

Flowing well on 20/64" choke w/ 24 hr monitoring.

\*\*\*\*0600 - Choke @ 20/64". TBG- 1908 psi @ 116 B/HR.  
 \*\*\*\*12:00 - Choke at 20/64". TBG-1784 psi @ 106 B/HR  
 \*\*\*\*17:00 - Choke at 20/64". TBG- 1706 @ 107 B/HR.. Cl=43,000 ppm.

24 hr fluid recovery:4,545 bbls  
 24 hr left to recover: 56,706 bbls  
 24 hr oil recovery: 0 bbls  
 Gas rate - 0  
 H2S None  
 Chlorides: 43,000

SHUT IN WELL.

WELL SHUT IN PENDING SETTING PACKER.

**Report Start Date:** 9/22/2014

Com

Well shut in. Wait on weather to improve to set packer

**Report Start Date:** 9/23/2014

Com

WELL SHUT IN.

HSE MEETING - DISCUSSED TENENT OF THE DA.Y, EMERGENCY RESPONSE, USING SPOTTERS WHEN BACKING EQUIPMENT, COVERING EACH OTHERS BACKS, KEEPING POSTIVE ATTITUDES AND THE EXPECTATION TO STOP THE JOB NO MATTER WHAT.

SPOT PUMP EQUIPMENT AND RU PUMP LINES. TESTED LINES TO 5000 PSI FOR 5 MIN. - TEST GOOD.

WO ROAD TO LOCATION TO BE FILLED IN DUE TO WASHOUTS. heavy EQUIPMENT WAS NOT ALLOWED TO PASS UNTIL THE ROAD WAS REPAIRED.

REVIEW WORK SCOPE WITH EPS, ARCHER, PETROPLEX, BAKER AND CHEVRON.

SPOT ARCHER WL AND CRANE AND PREP TO BULLHEAD WELL.

EQUALIZE WELL WITH 2365 PSI. OPEN WELL AND PUMP 278 BBLS (VOL TO TOP PERS) FRESH WATER. SHUT IN WELL

ND CAP FLANGE, AND INSTALL 10K x 5K LUBICATOR ADAPTOR FLANGE. mU MU 4.625" GUAGE RING / JUNK BASKET, PU LUB AND TEST TO 4000 PSI - TEST GOOD.

ATTEMPT TO RIH. WT. OF TOOLS WOULD NOT OVERCOME WELL PRESSURE. LD LUB/TOOLS AND ADD TWO WEIGHT BARS. PU TOOLS / LUB AND MU ON WELL. TEST LUB TO 4000 PSI - TEST GOOD.

RIH. RAN 4.62 OD GAUGE RING/JUNK BASKET TO 10600' (TOP OF SHORT JOINT AT 10583')  
POOH LD GAUGE BHA.

WO ARCHER TO GET GREASE AND PACK-OFF HOSE TO LOCATION.

**Report Start Date:** 9/24/2014

Com

WO GREASE AND PACK-OFF HOSES FOR ARCHER WL.

BULLHEAD 100 BBLS INTO WELL.



# Summary Report

Completion  
Complete

Job Start Date: 8/8/2014

Job End Date: 9/26/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

Com

PU BAKER HORNET PACKER.  
TEST LUB TO 4000 PSI - TEST GOOD.  
SET MIDDLE ELEMENT AT 9928'

POOH

Top of X profile nipple/O&O Tool 9924'	BHA	ID	OD	Length
X nipple O/O tool	2.313	3.15	1.27	
HORNET PACKER	2.37	4.6	9.17	
Pup Jt	2.441	2.875	6.1	
XN Nipple	2.205	2.875	1.25	
2.875 Collar	2.37	3.680	.45	
Pup Jt	2.441	2.875	4.10	
Pump out	2.44	2.875	.50	
Total			22.84	

Pump Out Set (3 pins) @ or around 3284 PSI

LD LUB / TOOLS, REMOVE 10K x 5K LUB AND RD ARCHER. CLEAN WORK AREA. PERFORM NEGATIVE TEST ON PACKER FOR 30 MIN - GOOD. LEAVE WELL OPEN TO OTT. START FLOWBACK RD. START FESCO FLOWBACK RD.

SPOT CRANE, ND CROWN VALVE, HYDRAULIC TOP MASTER, SET BACK PRESSURE VALVE, REMOVE LOWER MASTER AND INSTALL NIGHT CAP. REMOVING PRODIGAL SUN FLOWBACK WATER FROM GRAMMA RIDGE FRAC TANKS TO DISPOSAL. LOAD FESCO EQUIPMENT ON TRUCKS.

\*\*\*\*\*HANDOVER TO PRODUCTION (WOR) COMPLETED 9-24-14. @ 14:45

RU PU ON WELL, SDFN

CREW TRAVEL FROM LOCATION

WELL SI NO ACTIVITY

Report Start Date: 9/25/2014

Com

WELL SI NO ACTIVITY

CREW TRAVEL TO LOCATION

NO SAFETY OR ENVIRONMENTAL ISSUES TO REPORT

TENENT #5 ALWAYS MEET OR EXCEED CUTOMER'S REQUIREMENTS

HAZARD WHEEL: PRESSURE

360 MY SPACE: SLIPS TRIPS OR FALLS SAFE RIG UP PROCEDURES, LINE OF FIRE, HAND PLACEMENT, CRUSH POINTS, SPOTTERS, TAG LINE USE, H2S HAZARDS, COMMUNICATION, WEATHER AND STOP WORK AUTHORITY

CHECK WELL, 400PSI, BLED OFF PRESSURE, NU BOPE, SWAP BPV FOR TWC, PT BLINDS THEN RAMS 250PSI LOW & 1,000PSI HIGH (PT GOOD, PULL TWC & HANGER

MU ON/OFF TOOL & TIH W/ 2.875 L80 PRODUCTION STRING & SPACE OUT, SECURE WELL & SDFN

CREW TRAVEL FROM LOCATION

WELL SI NO ACTIVITY

Report Start Date: 9/26/2014

Com

WELL SI NO ACTIVITY

CREW TRAVEL TO LOCATION

NO SAFETY OR ENVIRONMENTAL ISSUES TO REPORT

TENENT #6 MAINTAIN INTEGRITY OF DEDICATED SYSTEMS

HAZARD WHEEL: TEMPERATURE

360 MY SPACE: SLIPS TRIPS OR FALLS SAFE RIG UP PROCEDURES, LINE OF FIRE, HAND PLACEMENT, CRUSH POINTS, SPOTTERS, TAG LINE USE, H2S HAZARDS, COMMUNICATION, WEATHER AND STOP WORK AUTHORITY

SPACE OUT PROD TBG

CIRCULATE WELL CLEAN WITH PACKER FLUID

LATCH ON/OFF TOOL & LAND HANGER, PT CSG TO 500PSI, PT GOOD, SET BPV, ND BOPE

NU TREE, PT VOID TO 5,000PSI, PT GOOD, SWAP BPV TO TWC, PT TREE TO 2,500PSI, PT GOOD, REMOVE TWC

PUMP THROUGH TREE & PUMP OUT PLUG, PLUG PUMPED FREE @ 3,800PSI, 2,600PSI ON WELL WHEN SI @ TREE

RD PU & EQUIPMENT

CREW TRAVEL FROM LOCATION

WELL SI NO ACTIVITY



# Summary Report

Well Services  
Pump Repair  
Job Start Date: 11/19/2014  
Job End Date: 12/1/2014

Well Name GRAMMA RIDGE 14-24-34 002H		Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) 3,508.00	Original RKB (ft) 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)

Report Start Date: 11/19/2014

Com

DAY 1-- WRITE AND REVIEW RIG MOVE,ROAD RIG TO LOCATION,HELD JSA'S AND TENENT #9,MI SURFACE EQUIPMENT,SPOT WSU,SDON.PROJECTED OPERATIONS:RU WSU,KILL WELL,NDWH,NUBOP,RELEASE PKR,POOH W/TBG,RIH W/KILLSTRING.

Report Start Date: 11/20/2014

Com

DAY 2-- WRITE AND REVIEW JSA'S AND TENENT #10,RU WSU,SITP 100# SICP 0#,BLEED WELL DOWN,PUMP DOWN WELL TO VACUUM,FUNCTION TEST BOP,NDWH,NU BOP,WORKED TBG TO RELEASE PKR COULDN'T,RU POWER SWIVEL,WORKED PKR LOOSE,POOH W/TBG 210 JTS,SHUT WELL IN AND SDON.PROJECTED OPERATIONS:POOH W/KILL,RU HYDROTESTERS,RIH WHILE TESTING TBG,RD HYDROTESTERS,SET TAC,RELEASE OFF DESANDER,CIRCULATE WELL.

Report Start Date: 11/21/2014

Com

DAY 3-- WRITE AND REVIEW JSA'S AND TENENT #1, 150#,BLEED WELL DOWN,PUMP DOWN WELL TO VACUUM,POOH W/KILLSTRING, RU HYDROTESTERS,PU NEW BHA AND RIH TESTING TBG,RD TESTERS,SHUT WELL IN AND SDFW.PROJECTED OPERATIONS:FINISH PU NEW TBG,SET TAC,GET OFF ON/OFF TOOL,CIRCULATE WELL,POOH W/TBG.

Report Start Date: 11/24/2014

Com

DAY 4-- WRITE AND REVIEW JSA'S AND TENENT #4, SITP 120#,SICP 150#,BLEED WELL DOWN,PUMP DOWN WELL TO VACUUM,PU 27 JTS,SET TAC @10457,CIRCULATED WELL 210 BBW,NO CIRCULATION,POOH WITH TBG,LEFT KILLSTRING IN WELL,SHUT WELL IN AND SDON.PROJECTED OPERATIONS:KILL WELL,POOH W/KILLSTRING,RU SPOOLERS,PU ESP AND RIH W/CABLE AND CT LINE,CONNECT QCI.

Report Start Date: 11/25/2014

Com

DAY 5-- WRITE AND REVIEW JSA'S AND TENENT #5,SITP 0#,SICP 0#,TALKED TO ESP TECH AND WAS INFORMED THAT THE EQUIPMENT WOULDN'T BE ON LOCATION UNTIL 12:00 PM MT,THEY WERE STILL WORKING ON ONE OF THE PUMPS,SHUT WELL IN AND SDON.PROJECTED OPERATIONS:KILL WELL,POOH W/KILLSTRING,RU SPOOLERS,PU ESP AND RIH W/CABLE AND CT LINE,CONNECT QCI.

Report Start Date: 11/26/2014

Com

DAY 6 -- WRITE AND REVIEW JSA'S AND TENENT # 6, SITP 0# SICP 0#, TOH W/ KILL STRING, PICK UP SUB PUMP ASSY, RIG UP SPOOLERS, TIH W/ TBG , ADDING 4 BANDS PER STD FOR CABLE AND CHEM LINE, MAKE QCI CONN, N/D BOP, N/U WH. CENTRILIFT REP NOTICED ELECTRICAL WIRING WAS WRONG. CONTACTED ALCR, HE SCHEDULED FOR A GANG, ELECTRICIAN, FIELD SPECIALIST & CENTRILIFT REP TO MAKE FINAL ADJUSTMENTS AND START UP. VERIFIED ISOLATED, SDFN. PROJECTED OPERATIONS: RDMO TO NEXT LOCATION.

Report Start Date: 12/1/2014

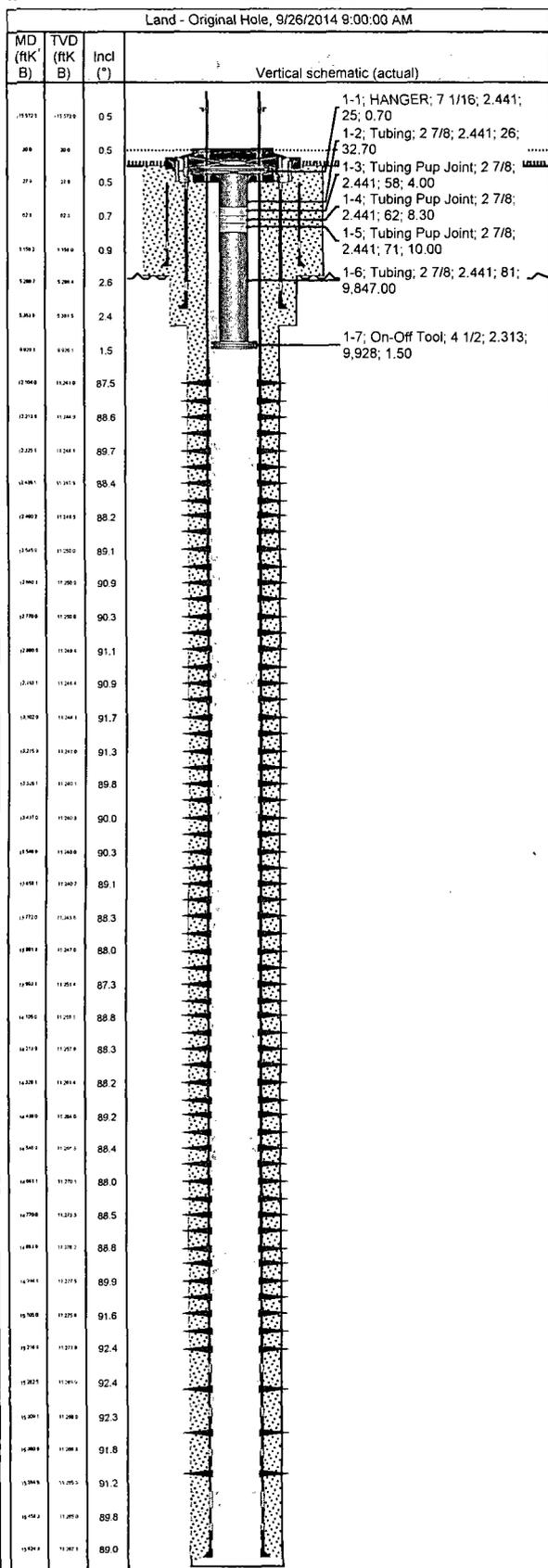
Com

DAY 7 -- WAITED 3 HOURS ON WSM, REVIEW JSA'S & TENENT #1, WRITE PTW, RIGGED DOWN WSU, CLEANED LOCATION, NOTIFIED DSC OF RIG MOVE. MOVE TO NEXT WELL.



# Tubing Summary

Well Name <b>GRAMMA RIDGE 14-24-34 002H</b>	Lease <b>Gramma Ridge 14-24-34</b>	Field Name <b>Red Hills North</b>	Business Unit <b>Mid-Continent</b>	
Ground Elevation (ft) <b>3,508.00</b>	Original RKB Elevation (ft) <b>3,533.00</b>	Current RKB Elevation <b>3,533.00, 6/4/2014</b>	Mud Line Elevation (ft)	Water Depth (ft)
Current KB to Ground (ft) <b>25.00</b>	Current KB to Mud Line (ft)	Current KB to Csg Flange (ft)	Current KB to Tubing Head (ft)	



Tubing Strings									
Tubing Description		Planned Run?			Set Depth (MD) (ftKB)		Set Depth (TVD) (ftKB)		
Tubing - Production		N			9,929.2		9,926.2		
Run Date		Run Job			Pull Date		Pull Job		
9/26/2014		Complete, 8/8/2014 10:00			11/24/2014		Pump Repair, 11/19/2014 07:00		
Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Len (ft)	Top (ftKB)	Btm (ftKB)
	HANGER	7 1/16	2.441				0.70	25.0	25.7
	Tubing	2 7/8	2.441	6.50	L-80		32.70	25.7	58.4
	Tubing Pup Joint	2 7/8	2.441	6.50	L80		4.00	58.4	62.4
	Tubing Pup Joint	2 7/8	2.441	6.50	L80		8.30	62.4	70.7
	Tubing Pup Joint	2 7/8	2.441	6.50	L80		10.00	70.7	80.7
	Tubing	2 7/8	2.441	6.50	L-80		9,847.00	80.7	9,927.7
	On-Off Tool	4 1/2	2.313				1.50	9,927.7	9,929.2

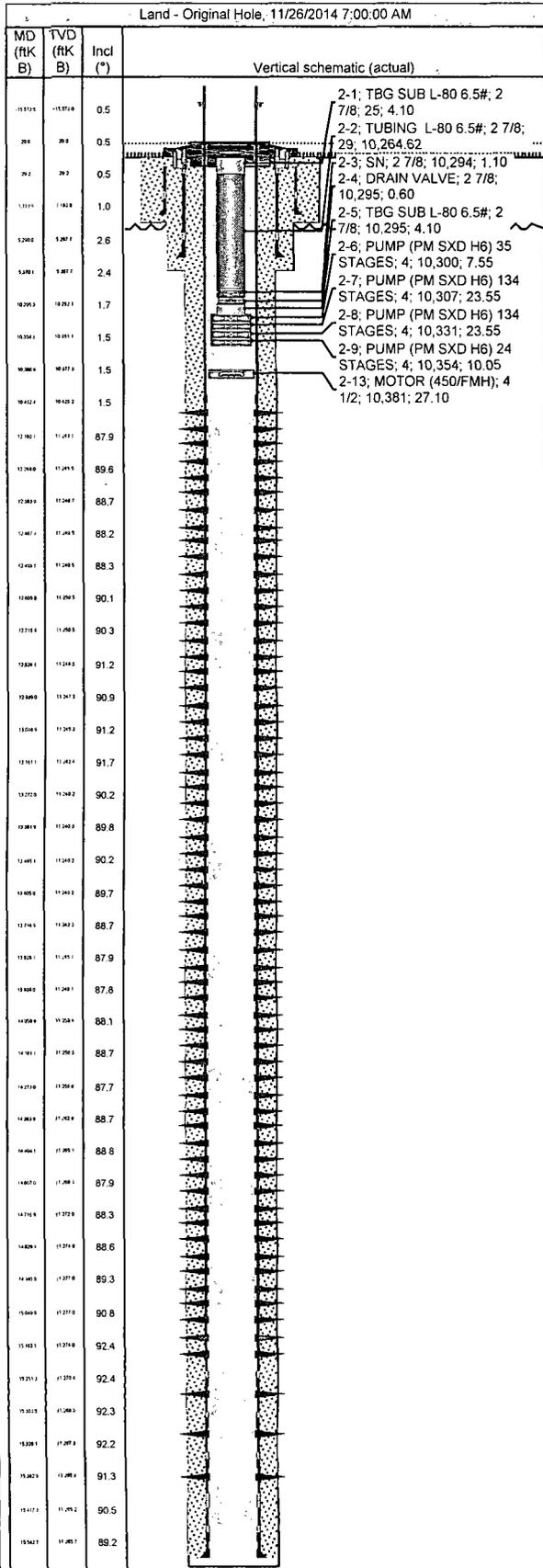
Rod Strings			
Rod Description	Planned Run?	Set Depth (ftKB)	Set Depth (TVD) (ftKB)
Run Date	Run Job	Pull Date	Pull Job

Rod Components							
Jts	Item Des	OD (in)	Grade	Model	Len (ft)	Top (ftKB)	Btm (ftKB)



# Tubing Summary

Well Name <b>GRAMMA RIDGE 14-24-34 002H</b>	Lease <b>Gramma Ridge 14-24-34</b>	Field Name <b>Red Hills North</b>	Business Unit <b>Mid-Continent</b>	
Ground Elevation (ft) <b>3,508.00</b>	Original RKB Elevation (ft) <b>3,533.00</b>	Current RKB Elevation <b>3,533.00, 6/4/2014</b>	Mud Line Elevation (ft)	Water Depth (ft)
Current KB to Ground (ft) <b>25.00</b>	Current KB to Mud Line (ft)	Current KB to Csg Flange (ft)	Current KB to Tubing Head (ft)	



Tubing Strings									
Tubing Description		Planned Run?			Set Depth (MD) (ftKB)		Set Depth (TVD) (ftKB)		
Tubing		N			10,411.9		10,408.7		
Run Date		Run Job			Pull Date		Pull Job		
11/26/2014		Pump Repair, 11/19/2014 07:00							
Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Len (ft)	Top (ftKB)	Btm (ftKB)
1	TBG SUB L-80 6.5#	2 7/8		6.50	L-80		4.10	25.0	29.1
313	TUBING L-80 6.5#	2 7/8		6.50	L-80		10,264.62	29.1	10,293.7
1	SN	2 7/8					1.10	10,293.7	10,294.8
1	DRAIN VALVE	2 7/8					0.60	10,294.8	10,295.4
1	TBG SUB L-80 6.5#	2 7/8		6.50	L-80		4.10	10,295.4	10,299.5
1	PUMP (PM SXD H6) 35 STAGES	4					7.55	10,299.5	10,307.1
1	PUMP (PM SXD H6) 134 STAGES	4					23.55	10,307.1	10,330.6
1	PUMP (PM SXD H6) 134 STAGES	4					23.55	10,330.6	10,354.2
1	PUMP (PM SXD H6) 24 STAGES	4					10.05	10,354.2	10,364.2
1	Gas separator						4.30	10,364.2	10,368.5
1	SEAL						6.10	10,368.5	10,374.6
1	SEAL						6.10	10,374.6	10,380.7
1	MOTOR (450/FMH)	4 1/2					27.10	10,380.7	10,407.8
1	CENTINEL						4.10	10,407.8	10,411.9

Rod Strings			
Rod Description	Planned Run?	Set Depth (ftKB)	Set Depth (TVD) (ftKB)
Run Date	Run Job	Pull Date	Pull Job

Rod Components							
Jts	Item Des	OD (in)	Grade	Model	Len (ft)	Top (ftKB)	Btm (ftKB)