Chevron	Sum	mary Report	Drill Drill and Suspend
		30-025-417	Job Start Date: 6/9/2014 Job End Date: 7/15/2014
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) Original RKB (ft) 3,508.00 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft) Water Depth (ft)
Report Start Date: 6/9/2014			
		Com Dut Catwalk, R/D BOS EQUIP, R/D Floor ,Rig	g Out Board And Flod Up, Rig Down
Winches And Coil Up On Racking Board Report Start Date: 6/10/2014		Yard Equip.	
Operations suspended until daylight.	······	Com	
	errick No success. TroubleShoot h	hecklist. Continue R/D and prepare for mobi ydraulic system. While continuing to move E	
TroubleShoot hydraulic system.			
Lower Derrick. String Down Blocks. Sus	pended operations until daylight.		
Report Start Date: 6/11/2014		Com	
Operations suspended until daylight. Ho		tal and Ensign and Trend. hto location, Spot loads, R/U Ensign 153.	
Suspended operations until daylight.	Ridge 14-24-34 2H.Wove camp or	nto location, Spot loads, R/U Ensign 153.	
Report Start Date: 6/12/2014	······		
Suspended operations until daylight.		Com	
Hold PJSM with Diamond Tank Rental a	and Ensign Crew		
Continue to Spot loads, String Up blocks	5	J Ensign 153.	
Note: Contacted NMOCD @ 21:30 6/12	2/2014 with intent to spud. No Ansi	wer, Left Message On Answering Machine V	Vith Details.
Report Start Date: 6/13/2014		Com	
Continue to R/U in Back yard. While Ch Saver sub on TDS and torque same.	anging oil in TDS, Install Flowline	across pits. Function Test Catwalk, Function	n Test and Spin Test TDS. Install IBOP and
Install Bails and Elevator on TDS. Perfo 10 min. Accept rig at 14:00 hrs 6-13-201	orm TDS inspection. Fill pits. Move 14.	e CSG. Calibrate Blocks.Check off Safety che	ecklist. Pressure Test line to 1000 psi for
Nipple up Conductor and related equipn	nent. Rig Frac tank manifold. Move	e CSG to pipe racks.	
L/O and strap BHA while contining to se		rs and Install flow show paddle.	
Service Rig (While Troubleshoot catwa Shut down due to high winds and lighter			
P/U 17-1/2" BHA. and TIH to 140' MD.			
Spud well at 22:30 hrs 6-13-2014. Drill 1	17-1/2" Hole F 140' T/ 183'		
Report Start Date: 6/14/2014		Com	
Drig f/ 183' to 500' AROP = 52.8 fph			
WOB = 5 – 10 kips			
TD RPM = 90 GPM = 400			
SPP = 300 psi MW = 8.5 ppg			
pH = 7			
			HOBBSOCD
			DEC 1 9 2014
	and the second second	· · · · ·	AP
-	SE Faller	MAR 0 3 20	113 Regenser
E.	OR RECORD O	Page 1/20	RECEIVED Report Printed: 12/17/2014

Chevron	Sui	mmary Report	Drill Drill and Suspend Job Start Date: 6/9/2014 Job End Date: 7/15/2014
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) Original RKB (ft)	Current RKB Elevation		Mud Line Elevation (ft) Water Depth (ft)
3,508.00 3,533.0	0 3,533.00, 6/4/2014		
Drig f/ 500' to 776' AROP = 55.2 fph WOB = 10 -15 kips TD RPM = 94 GPM = 530 SPP = 710 psi MW = 8.4+ ppg pH = 7		Com	
Note (if applicable): C/O two swabs on mud pump from 080	00 hrs -0900 hrs		
Drlg f/ 776' to 1,023' AROP = 41.2 fph WOB = 15-20 klbs TD RPM = 110 GPM = 567 SPP = 1000 psi MW = 8.5 ppg pH = 7			
Drlg f/ 1,023' to 1,202' AROP = 60 fph WOB = 20-25 klbs TD RPM = 120 GPM = 730 SPP = 1000 psi MW = 8.5 ppg pH = 7			
Circulate two B/U. Flow check well – 5 MW=8.6 Visc=30 PH=7	Static		
Note (if applicable): Drop Gyro before pulling out of hole Notified Patricia of OCD District 1 @ 22	200 bro on 6/14/2014 of intent (
TOH f/ 1203' to Surface' L/D Shock Sub, Teledrift, and Bit			
Note : Inclination Survey at 1202' TD s	howed 1 deg.		
Report Start Date: 6/15/2014			
Nipple down conductor pipe and clear		Com	
PJSM w/ Franks. R/U casing running e	•	``````````````````````````````````````	
Run 13 3/8" 48# H-40 STC csg as follo Float Shoe 1 Shoe Jt Float Collar 26 Joints Pup Joint Wellhead (13 3/8" SH-2)	ws:		
Centralizer place 10' above FS, 15' ab	ove FC, one every three 3 jts to	o surface.	
Tag bottom at 1,202' Casing shoe landed at 1,995' Top of FC at 1,955'			
Circulate and condition mud 1.5 btms i Waiting on cement to arrive on locatio			
Note: R/D casing running equipment. PJSM with Halliburton and R/U cemen	ting equipment.		
		Page 2/20	Report Printed: 12/17/2014

Chevron	Sum	mary Report	Dril Drill and Suspend Job Start Date: 6/9/2014 Job End Date: 7/15/2014
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) Original RKB (ft)	Current RKB Elevation		Mud Line Elevation (ft) Water Depth (ft)
3,508.00 3,533.00	3,533.00, 6/4/2014		_
Perform cmt job as follows: Pressure test lines to 1000 psi Pump 60 bbls of fresh water spacer at 8.4 Mix and pump 1160 sxs (355 bbls) of lear Mix and pump 570 sxs (136 bbls) of tail c Drop top plug and displace cmt w/ 181bb Did not bump plug. Bleed off pressure – floats held.	d cement at 13.5 ppg. ement at 14.8 ppg.	Com 10.0 ppg brine.	
Details: Full returns throughout job Final circulation pressure prior to bumpin Cmt in place at 1545 hrs.	g plug 300 psi at 2 bpm 318 bbl:	s (1038 sxs) of cmt to surface	
R/D Halliburton cementers		······································	
Lay down landing joint. Dress SH-2 Well PJSM and N/U DSA, Spacer Spools & 13		•	
Report Start Date: 6/16/2014		s, accumulator illes, etc.	
		Com	
PJSM w/ Man Welding BOP tester. R/U E	30P Testing equipment. Function	on test BOP.	
Accumulator test. Usable fluid: 1650 psi (Pass) Precharge: 700 psi (Fail) Pump Capacity: 1:45 sec (Pass)			
Note: Cameron called to recharge bottles One accumulator pump inoperable. Repl:	acement pump in route.		
in ring gasket groove and replace ring ga	sket to fix leak. Reattach BOP a w / 5000 psi 5 min high (3500 hig		ellhead flange from wellhead. Clean out trash etails documented in MCBU BOP Testing
Sheet: Airlest good. Second accumulate Second Accumulator Test: Usable Fluid: 1700 psi (Pass) Precharge: 1000 psi (Pass) Pump Capacity: 1:46 (Pass)			
Note: Bottom Rams failed test due to leaking B Hydraulic leak on HCR valve (2 hrs NPT) Top Drive IBOP failed initial test and was)	i (5 hrs NPT).	
Test casing to 1200 psi (Good Test) Lay out and strap 100 joints of drill pipe.	Pick 5000' of drill pipe and rack	back in derrick while waiting on replaceme	ent accumulator pump to ship from Houston
Report Start Date: 6/17/2014	······································		
ay out and strap 100 joints of drill pipe.	Pick 5000' of drill pipe and rack	Com back in derrick while waiting on replacement	ent accumulator pump to ship from Houston
Pick Up BHA#2 as follows: 12 1/4" PDC bit (Ulterra 616S) 7 3/4" Motor (.26 rev/gal)			
TIH and tag cement/float collar at 1,127'			
Circ hole with 10 ppg brine and perform of			
Wait on accumlator pump to arrive on loo	cation.		
Note: Remove inoperable accumlator pump. Rig up fill up line.			
Change out expendable pump parts			
Report Start Date: 6/18/2014			
		Page 3/20	Report Printed: 12/17/201

Chevron	Sum	mary Report	Drill Drill and Suspend Job Start Date: 6/9/2014 Job End Date: 7/15/2014
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) Original RKB (ft) 3,508.00 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft) Water Depth (ft)
		Com	
Wait on accumlator pump to arrive on lo Install new accumulator pump.	cation.		
Note: New pump arrived on location @ 0530 h	rs on 6/18/2014		
Drl FE & Cmt to 1260'. Drl 10' of new ho	e.		
Note: Install rotating head			
Circulate btms up and perform fit test to Drlg f/ 1,202' to 1,528'	68 psi (EWM 11 ppg) (Test Good) <u> </u>	
AROP = 93.1 fph WOB = 10 – 20 klbs TD RPM ≈ 30-20 Motor RPM = 148 GPM = 570			
SPP = 2900 psi MW = 9.9 ppg pH = 10			
Note: Survey Depth: 1376, INC: 1.29, AZM: 33	7.57, TVD: 1375.84, VS: -9.08, D	LS: 0.27	
Drig f/ 1,528' to 2,180' AROP = 118.5 fph WOB = 20 klbs TD RPM = 60 Motor RPM = 177 GPM = 692 SPP = 3000 psi MW = 9.9 ppg pH = 11			
Note: Survey Depth: 2092, INC: 1.6, AZM: 324 Slide from 2,169' - 2,174' @ 138 MAG T Report Start Date: 6/19/2014		PLS: 0.34	
		Com	
Drlg f/ 2,180' to 2,875' AROP = 115.8 fph WOB = 20 klbs TD RPM = 60 Motor RPM = 177 GPM = 692 SPP = 3000 psi MW = 9.9 ppg pH = 13			
Note: Survey Depth: 2808, INC: 1.47, AZM: 31 Slide from 2,435 - 2,460' @ 140 MAG To		S: 0.20	
Drig f/ 2,875' to 3,416' AROP = 90.17 fph WOB = 15 - 20 klbs TD RPM = 70 Motor RPM = 190 GPM = 730 SPP = 3650 psi MW = 10 ppg pH = 13			
Note: Survey Depth:3344, INC: 1.1, AZM: 356. Slide from 2,966 - 2,998' @ 160 MAG To Slide from 3,054 - 3,086' @ 160 MAG To Slide from 3,233 - 3,268' @ 160 MAG To	oolface (1 hr) oolface (0.5 hr)	_S: 0.11	
		Page 4/20	Report Printed: 12/17/2014

Chevron		Sun	nmary Report	Drill Drill and Suspend Job Start Date: 6/9/2014 Job End Date: 7/15/2014
Well Name GRAMMA RIDGE 14-	24-34 002H	Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent
	riginal RKB (ft)	Current RKB Elevation 00 3,533.00, 6/4/2014		Mud Line Elevation (ft) Water Depth (ft)
			Com	
Drlg f/ 3,416' to 3,953 AROP = 107.4 fph WOB = 25-30 klbs TD RPM = 70 Motor RPM = 189 GPM = 725 SPP = 3740 psi MW = 10 ppg pH = 13	3'			
Note: Survey Depth: 3881, I Slide from 3,769' - 3,8 Intsall rotating head (' Rig Service (1500-15)	814' @ 210 MAG 1430 - 1500 hrs)	I.09, TVD: 3880.18, VS: -58.20, Toolface	DLS: 0.16	
Drlg f/ 3,953' to 4,230 AROP = 46.17 fph WOB = 25-30 klbs TD RPM = 60 Motor RPM = 179 GPM = 687 SPP = 3200 psi MW = 10 ppg pH = 13				
Note: Survey Depth: 4061, Slide from 3,949' - 3,9 Slide from 4,038' - 4,0 Side from 4,128' - 4,1	983' @ 220 MAG 078' (1 hr)	43.45, TVD: 4060.13, VS: -61.12 Toolface (1.5 hr)	, DLS: 0.51	
Report Start Date: 6	6/20/2014		Com	
Drlg f/ 4,230' to 4,66 AROP = 46.17fph WOB = 20-35 klbs TD RPM = 70 Motor RPM = 190 GPM = 687 - 720 SPP = 3400 psi MW = 10 ppg pH = 13	4'			
Note: Survey Depth: 4597, I TVD: 4595.99, VS: -6		96.33,		
Drill, slide and survey	12 1/4" production	on hole from 4,664' to 4,888'.		
Rotate: AROP: 60 fph WOB = 30 Klbs RPM = 70 Motor RPM = 178 GPM = 684 SPP = 3582 psi Torque = 8.5 Kft*lbs Differential = 750 psi	Slide: AROP: 29.78 WOB =25 KI Motor RPM = GPM = 607 SPP = 2700 Torque = 5.0 Differential =	bs 158 osi Kft*lbs	-	
Rotate: 4,715' - 4,760' 4,843' - 4,888'	Slide: 4,664' - 4,760' 4,670' - 4,843			
Note: Last Survey: SD: 4776, INC: 3.74, TVD: 4774.65, VS: -6				
			Page 5/20	Report Printed: 12/17/2014



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) Original RKB (ft) 3,508.00 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth	(ft)
		Com			
Silde f/ 4,888' - 5,156' AROP: 29.78 fph					
WOB =25 Klbs Motor RPM = 158					
GPM = 607					
SPP = 2700 psi Torque = 5.0 Kft*lbs					
Differential = 550 psi					
Note: Last Survey:					
Survey Depth: 5134, INC: 3.07, AZM: 72	.23,				
C/O valve and seat on MP #2 from1400 Rig service from 1530 hrs - 1600 hrs. (0.					1
Silde f/ 5,156' to 5,370'					
AROP: 35.67 fph WOB =25 Klbs					
Motor RPM = 179 GPM = 689					
SPP = 2800 psi Torque = 4.6 Kft*lbs					
Differential = 520 psi					
Note:					
Last Survey: Survey Depth: 5303, INC: 2.55, AZM: 52	.75,				
TVD: 5300.72, VS: -65.78, DLS: 0.64					
C/O swab on MP #1 from1800 hrs - 190 Rotate f/ 5,290 - 5,370'	0 hrs. (1 hrs)				
Report Start Date: 6/21/2014			······		
Pump 40 bbl high visc sweeps @ TD, cir	culate two B/U.	Com			
Flow check well – Static. Pump 12 ppg slug.					
TOH f/ 5,370' to surface		······			
L/D BHA, motor and bit. Pull wear bushing					
Clean rig floor.					
Note: Hole took correct fill.					
Remove rotating head @ 817'					
PJSM w/ Franks. R/U casing running equ	upment. Elevators callipered by to	olpusher and driller.			
Run 9 5/8" 40# HCK-55 LTC csg as follo Float Shoe					
2 Shoe Jts					
Float Collar 138 Joints					
1 Pup Joint Casing hanger					
Centralizers placed 10' above FS,10' ab	ove FC, across the first casing coll	ar, across the FC, and one per 4 jts to surface.			
Tag bottom at 5370'	,				
Casing shoe landed at 5,363' Top of FC at 5,288'					
Notified Patricia of OCD at 0320 hrs on 0	06/21/201 of intent to run and cmt o	csg. No answer, left message.			
PJSM with Halliburton cementers and R					
Circulate and condition mud 1.5 btms up).				
Note: R/D Frank's casing running equipment.			,		
		Page 6/20	Report	Printed: 1	2/17/2014

Drill Chevron Summary Report **Drill and Suspend** Job Start Date: 6/9/2014 Job End Date: 7/15/2014 ield Name ease **Business** Uni GRAMMA RIDGE 14-24-34 002H Gramma Ridge 14-24-34 Red Hills North Mid-Continent Current RKB Elevation Ground Elevation (ft) Original RKB (ft) Mud Line Elevation (ft) Water Depth (ft) 3,508.00 3,533.00 3,533.00, 6/4/2014 Report Start Date: 6/22/2014 Com Perform cmt job as follows: Pressure test lines to 3000 psi Pump 20 bbls of fresh water and 20 bbls of Tuned Spacer. Mix and pump 1725 sxs (580 bbls) of Econoncem HLC lead at 12.9 ppg. Mix and pump 380 sxs (93 bbls) of Halcem C tail at 14.8 ppg. Drop top plug and displace cmt w/ 401 bbls of 8.4 ppg fresh water. Bump plug with 500 psi over final circulating pressure. Bleed off pressure - floats held. Details: Ful returns throughout job Final circulation pressure prior to bumping plug 1700 psi at 3 bpm 270 bbls of cmt to surface Cmt in place at 0400 hrs. Test casing to 1500 psi (good test) R/D Halliburton cementing equipment Backout landing joint. Install packoff and test to 5000 psi (Good Test) Pick Up BHA#3 as follows: 8 3/4" PDC bit (Halliburton MM65DM). 6 3/4" Motor (.29 rev/gal) TIH and tag cement/float collar at 5285' Note: Rotating head installed @ 727' Circulate bottoms up and perform choke drill. DrI FE & Cmt to 1,540'. Drl 10' of new hole. Perform FIT Test to 12 ppg EMW (836 psi) - Good Test. Drlg f/ 5,380' to 5870' AROP = 75.38 fph WOB = 25-30 klbs TD RPM = 45Motor RPM = 171 GPM = 588 SPP = 3250 psi MW = 9.0 ppg pH = 13 Note: Survey Depth: 5684, INC: 2.02, AZM: 88.04, TVD: 5681.44, VS: -72.73, DLS: 0.85 Report Start Date: 6/23/2014 Com Drlg f/ 5,870' to 6550' AROP = 113.34 fph WOB = 20 - 27 klbs TD RPM = 62 Motor RPM = 172 GPM = 592 SPP = 3125 psi MW = 8.9+ ppg pH = 13Drlg f/ 6,550' to 7,347' AROP = 132.83 fph WOB = 20 - 27 klbs TD RPM = 62 Motor RPM = 172 GPM = 592 SPP = 3125 psi MW = 8.9 + ppgpH = 13 Service Rig



	l			d Date: 7/15/201
Well Name GRAMMA RIDGE 14-24-34 002H	Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
round Elevation (ft) Original RKB (ft) 3,508.00 3,533.00	Current RKB Elevation 3,533.00, 6/4/2014	,	Mud Line Elevation (ft)	Water Depth (ft)
Orig f/ 7,347' to 7,890' RCP = 98.7 fph VOB = 20 - 27 klbs TD RPM = 62 Motor RPM = 172 GPM = 592 GPP = 3125 psi MW = 8.9+ ppg oH = 13		. ,		
Drig f/ 7,890' to 8,280' AROP = 65 fph WOB = 20 - 27 klbs ID RPM = 62 Motor RPM = 172 GPM = 592 GPP = 3125 psi MW = 8.9+ ppg DH = 13				
Report Start Date: 6/24/2014				
Drlg f/ 8,280' to 8,510' AROP = 39 fph WOB = 20 - 27 klbs TD RPM = 70 Motor RPM = 139 GPM = 535 SPP = 2,750 psi MW = 8.9+ ppg pH = 13		Com		
Drig f/ 8,510' to 8,763' AROP = 63 fph WOB = 20 - 27 klbs TD RPM = 70 Motor RPM = 139 GPM = 535 SPP = 2,750 psi MW = 9.0 ppg pH = 13				
Repair wear plate gasket on Pump #2				
Ccirculate at reduced rate while making Drig $f/8,763'$ to 9,043' AROP = 47 fph WOB = 20 - 27 klbs TD RPM = 70 Motor RPM = 139 GPM = 535 SPP = 2,800 psi MVV = 9.0 ppg pH = 13	ιτμαιι			
Drlg f/ 9,043' to 9,300' AROP = 43 fph WOB = 22 - 29 klbs TD RPM = 70 Motor RPM = 139 GPM = 535 SPP = 2,800 psi MW = 9.0 ppg pH = 13				
Report Start Date: 6/25/2014				
		Page 8/20	Renor	Printed: 12/17/2

Chevron	Sum	mary Report	Drill Drill and Suspend Job Start Date: 6/9/2014 Job End Date: 7/15/2014
Well Name	Lease	Field Name	Business Unit
GRAMMA RIDGE 14-24-34 002H Ground Elevation (ft) Original RKB (ft)	Gramma Ridge 14-24-34 Current RKB Elevation	Red Hills North	Mid-Continent Mud Line Elevation (ft) Water Depth (ft)
	3,533.00, 6/4/2014		
Drig f/ 9,300' to 9,494' AROP = 39 fph WOB = 27 - 33 klbs TD RPM = 65 Motor RPM = 139 GPM = 535 SPP = 2,850 psi MW = 8.9+ ppg pH = 13 Rig servcie Drig f/ 9,494' to 9,639' AROP = 29 fph WOB = 27 - 33 klbs TD RPM = 65 Motor RPM = 139 GPM = 535 SPP = 2,875 psi MW = 8.9+ ppg pH = 13 Note: Decision was made to TOH due to Circulate and condition hole, Perform flow Class of the station		Com	
Flow check: Well Static			
TOH to directional tools			
L/D BHA		······································	
No visible damage to motor, Bit graded 1 Pick Up BHA# 4 as follows: 8 3/4" PDC bit (Halliburton MM65DM). 6 3/4" Motor (.29 rev/gal) Muleshoe sub	-2, slight damage on shoulder		
Monel Flex Monel X/O sub (9) 6-1/2" DC's (6) HWDP Jars			
(5) HWDP Shallow test MWD- test good			
Run in hole with new BHA			
Run in hole with new BHA Report Start Date: 6/26/2014			
		Com	
Run in hole with new bit/motor to 5,469' Fill pipe at 3.411'	· · · · · · · · · · · · · · · · · · ·	······································	
Install rotating head and fill pipe, transfer	fluid from frac tanks into active		
Test MWD in open hole- test good			
Spot LCM pill above loss zone			
TIH to 9,639'		······	
Drlg f/ 9,639' to 9,940'			
AROP = 50 fph			
WOB = 27 - 30 klbs			
TD RPM = 65 Motor RPM = 139			
GPM = 535			
SPP = 3,100 psi			
MW = 8.9+ ppg pH = 13			

Chevron	Sum	mary Report	Drill Drill and Suspend Job Start Date: 6/9/2014 Job End Date: 7/15/2014
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) Original RKB (ft)	Current RKB Elevation		Mud Line Elevation (ft) Water Depth (ft)
3,508.00 3,533.00	3,533.00, 6/4/2014		·
Drig f/ 9,940' to 10,028' AROP = 35 fph WOB = 27 - 30 klbs TD RPM = 65 Motor RPM = 139 GPM = 535 SPP = 3,200 psi MW = 8.9+ ppg pH = 13 Circulate and condition hole prior to TOF	I to shoe, perform flow check, an	Com	
Flow check: well static	,		
TOH to 6,000'			
Max overpuli= 35K			
Pump 80 BBL LCM (8 PPB LCM) pill and	displace out of pipe		
Continue TOH to casing shoe to perform			
Report Start Date: 6/27/2014		Com	
Repair service loop. 3 electric wires had derrick Run in hole to bottom, no tight spots see Drig f/ 10,028' to 10,120' AROP = 27 fph WOB = 26 - 30 klbs TD RPM = 65 Motor RPM = 139 GPM = 535 SPP = 3,100 psi MW = 8.9+ ppg pH = 13 Rig service Drig f/ 10,120' to 10,161' AROP = 41 fph WOB = 26 - 30 klbs TD RPM = 65		and re-routed kelly hose to front of service	e loop to avoid service loop rubbing against
Motor RPM = 139 GPM = 535 SPP = 3,100 psi MW = 8.9+ ppg pH = 13 Replace cap gasket on pump #2 Drlg f/ 10,161' to 10,455' AROP = 49 fph			
WOB = 26 - 30 klbs TD RPM = 65 Motor RPM = 139 GPM = 535 SPP = 3,400 psi MW = 8.9+ ppg pH = 13			
Drlg f/ 10,455' to 10,620' AROP = 30 fph WOB = 26 - 30 klbs TD RPM = 65 Motor RPM = 139 GPM = 450 SPP = 3,150 psi MW = 8.9+ ppg pH = 13			
Note: At 10,526' an immediate pressure	spike of 600 PSI was observed,	it was determined a jet was plugged and	drilling would continue at 450 GPM to TD.
Report Start Date: 6/28/2014			
		Page 10/20	Report Printed: 12/17/2014
		✓	• • • • • • • • • • • • • • • • • • • •



Well Name	Lease	Field Name	Business Unit	
GRAMMA RIDGE 14-24-34 002H	Gramma Ridge 14-24-34	Red Hills North	Mid-Continent	
Ground Elevation (ft) Original RKB (ft)	Current RKB Elevation			Vater Depth (ft)
	00 3,533.00, 6/4/2014			,
		· · · · ·		
		Com		
Drlg f/ 10,620' to 10,644'				
AROP = 24 fph				
WOB = 26 - 30 klbs				
TD RPM = 65				
Motor RPM = 131				
GPM = 450				
SPP = 3,150 psi MW = 8.9+ ppg				
pH ≈ 13				
Note:				
Seeping 6-8 bph.				
Circulate & Condition hole clean. Pum	p 40 bbls hi vis sweep. Spot 80 bbls	LCM pill inside casing shoe.		
Note: LCM pill contained LCF Fine, LCF Ble	nd 8 papar to halp control lesson/ac			
I LOW pill contained LCF Fine, LCF Ble	nd & paper to help control losses/set	epage.		
Flow check- well static. Pump slug and	d prep to TOH.			
TOH f/ 10,644' t/ 727'.				
Note: Hole taking more fill (6-8 bbls/5	stds instead of 3.7 bbls/5 stds)			
Pull rotating head.				
L/D vertical BHA:	····			
8 3/4" MM65DM jetted w/ 6-14's				
SN: 12445543				
6 3/4" 7/8 5.0 ABH @ 1.83 Motor				
SN: 24XH6502105				
Note:				
Bit graded: 6-2				
Cored out and 4 out of 6 plugged noz	zles.			
M/U 8 3/4" Curve BHA as follows:		······································		
8 3/4" MMD55DM jetted w/ 4- 18's				
(SN: 12450511)				
6 3/4" 7/8 5.0 FBH @ 2.38 (SN: 24X1	7116)			
Muleshoe	·····,			
Monel	1			
Flex Monel				
Shallow test motor & MWD - test ok.				
Clean and prepare rig floor for trip. La	v out and strap HWDP			
TIH 6 stds of DP & 5 stds HWDP.				· · · · · · · · · · · · · · · · · · ·
P/U 120 jts 5" DP from pipe racks. TI⊦	I E/ 1 080 - 1/ 5 692'			
	11,000 00,002			
Note: Hole not achieving proper displa	icement.			
Test MWD: test good				
l rest www. test good				
Spot LCM pill at casing shoe to mitiga	te losses			
	10 10 30 0 3.			
TIH f/ 5,692' - t/8,600'				
Fill pipe every 3,000' on trip in.				-
Design of Other Division (1991/9944				
Report Start Date: 6/29/2014		0		
TILL & 8 6001 - 1/40 5621		Com		······································
TIH f/ 8,600' - 1/10,563'				
Note: Fill pipe & wash last stand to be	ttom Sync MMD			

Chevron			mary Report	Job St Job Er	Drill Drill and Suspend art Date: 6/9/2014 ad Date: 7/15/2014
Well Name GRAMMA RIDGE 14-2	24-34 002H	Lease Gramma Ridge 14-24-34	Field Name Red Hills North	Business Unit Mid-Continent	
Ground Elevation (ft) Or 3,508.00		Current RKB Elevation 3,533.00, 6/4/2014		Mud Line Elevation (ft)	Water Depth (ft)
	· · · ·		Com		
Build and pump LCM					
Drill, slide and survey	8 3/4" curve section	1 from 10,644' to 10,817'.			
Rotate: AROP: 40 fph WOB = 20 Klbs RPM = 20 Motor RPM = 138 GPM = 475 SPP = 2200 psi Torque = 7.1 Kft*lbs Differential = 250 psi	Slide: AROP: 27.8 fpl WOB =10 - 25 Motor RPM = 13 GPM = 480 SPP = 2500 psi Torque = 2.8 Kf Differential = 35	<lbs 9 *Ibs</lbs 			
Rotate: \$ 10,742' - 10,762'	Slide: 10,644' - 10,742' 10,762' - 10,817'			· ·	
Note: Last Survey: SD: 10,780, INC: 19.1 TVD: 10773.53, VS: 1					
Drill, slide and survey	8 3/4" curve section	1 from 10,817' to 11,084'.			
10,817' - 10,832' 10,859' - 10,877'	Slide: AROP: 51 fph WOB =13 - 25 Motor RPM = 14 GPM = 510 SPP = 2500 psi Torque = 2.1 Kf Differential = 35 Slide: 10,832' - 10,859 10,877' - 10,901	8 *Ibs) psi			-
10,901' - 10,922' 10,948' - 10,969' 10,992' - 11,011' 11,036' - 11,056'	10,922' - 10,948 10,969' - 10,992 11,011' - 11,036 11,056' - 11,084				
Last Survey: SD: 11,049, INC: 39.8 TVD: 11,004.63, VS: 1					
-					



GRAMMA RUDE: 14:24-34 002H Gramma Rugg 14-24-34 Red Hills Noth Md. Continent 3:005.00 9:099 Mdt mg Generative association Md. Lett. 1000 Mdt mg Md. Lett	Well Name	Lease	Field Name	Job End Date: 7/15/20 Business Unit
3.508.00/ 3.533.00/3.533.00/42014 Can Status Status Can Status Status Status Status<	GRAMMA RIDGE 14-24-34 002H	Gramma Ridge 14-24-34		Mid-Continent
mill, Bilde and Survey 8 34° curve section from 11.084 to 14.410. caded Side. caded Side. Ope 2.0 Kibs WORD 13.2 Kibs. DVA 2.0 Core State.				Mud Line Elevation (ft) Water Depth (ft)
mill alled and survey 0 344" curve section from 11.084 to 11.410; atale: Side: opp: 20 Kbs WORD 13: 2.2 Kbs PM = 20 Motor RPM = 164 opp: 20 Kbs Differential = 250 psi mill: 10:3 + 11.45 11:3 + 11.45 11:10 + 11.13; 11:3 + 11.45 11:10 + 11.13; 11:3 + 11.45 11:10 + 11.13; 11:3 + 11.45 11:10 + 11.13; 11:3 + 11.45 11:10 + 11.13; 11:3 + 11.45 11:30 + 11.45; 11:3 + 11.45 11:30 + 11.45; 11:3 + 11.45 11:30 + 11.32; 11:3 + 11.45 11:30 + 11.32; 11:3 + 11.45 11:30 + 11.32; 11:3 + 11.45 11:30 + 11.32; 11:3 + 11.45 11:30 + 11.32; 11:3 + 11.45 11:30 + 11.32; 11:3 + 11.45 11:30 + 11.32; 11:3 + 11.45 11:30 + 11.32; 11:3 + 11.45 11:30 + 11.35; other Side: R0P:3 HID And Survey 0 344* curve section from 11.14 to 11:50; other Side: R0P:3 Strib Differential = 250 psi firetimential = 250 for Side 2				
state:::::::::::::::::::::::::::::::::::	rill, slide and survey 8 3/4" curve sect	tion from 11.084' to 11.410'.	Com	
RROP 45 (6) h. ACOP 33 (0) WOE 33.2 K the MOE 33.2 K the MOE 34.2				
ACG # - 20 Khs WOO = 13 - 25 Khs Motor FPM = 10 CPM = 50 Motor FPM = 151 CPM = 50 Motor FPM = 150 Differential = 250 psi Market Silos Motor FPM = 11100 11.100 - 11.131 11.137 - 11.380 11.387 - 11.337 11.327 - 11.331 11.347 - 11.371 11.377 - 11.381 11.347 - 11.347 11.377 - 11.381 11.347 - 11.347 11.377 - 11.381 11.347 - 11.347 11.377 - 11.381 11.347 - 11.450 11.377 - 11.381 11.347 - 11.450 11.377 - 11.387 11.347 11.377 - 11.387 11.347 11.377 - 11.387 11.450 11.377 - 11.387 11.450 11.377 - 11.387 11.451 11.377 - 11.387 11.452 11.377 - 11.482 11.457 11.377 - 11.482 11.457 11.378 - 11.452 11.457 11.437 - 11.457		h		
RPM = 20 Moley RPM = 151 Gen / 500 SPP = 2700 pit SPM = 500 SPP = 2700 pit SPM = 500 SPP = 2700 pit SPM = 500 SPM = 500 pit SPM = 500 pit SPM = 500 pit </td <td></td> <td></td> <td></td> <td></td>				
Molor RPM = 145 GPM = 520 SPP = 230 psi SPP = 230 psi Torque = 43. KHS Differential = 250 psi Differential = 250 psi Dif				
SPP = 200 psi Torque = 3.4 KtHbs Differential = 250 psi Retain: Silde: 11 04: 11.107 11.137 11.137 11.149 11.137 11.149 11.137 11.149 11.137 11.149 11.137 11.132 11.137 11.132 11.137 11.132 11.137 11.237 11.137 11.327 11.337 11.327 11.337 11.327 11.337 11.327 11.337 11.327 11.337 11.327 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.337 11.437 11.337 11.437 <td></td> <td></td> <td></td> <td></td>				
Torque = 05 KtVtbs Differential = 250 psi Microsoft = 250 KtVts Differential = 250 psi Microsoft = 11,107 - 11,107 - 11,107 - 11,127 - 11,227 - 11,237 - 1				
Differential = 250 psi Rotate: State: State: Rotate: State: State: 11.026 - 11.107 - 11.107 - 11.227 11.227 - 11.237 - 11.237 - 11.227 11.227 - 11.237 - 11.340 - 11.324 11.327 - 11.340 - 11.340 - 11.327 11.327 - 11.340 - 11.340 - 11.371 11.327 - 11.340 - 11.340 - 11.340 Report Start Date: 0.0302014 Com Report Start Date: 0.030 Start Date: 0.040200 Start Date: 0.040200 Start Date: 0.040200 Start Date: 0.0400000 Start Date: 0.04000000 Start Date: 0.040000000000000000000000000000000000				
Note: Slide: Slide: 11.084 11.107 11.107 11.137 11.287 11.377 11.1387 11.187 11.287 11.377 11.1387 11.387 11.387 11.377 11.1387 11.387 11.387 11.377 11.1387 11.387 11.387 11.377 11.387 11.387 11.387 11.377 11.387 11.387 11.387 11.377 11.387 11.387 11.387 11.377 11.387 11.387 11.387 11.377 11.387 11.387 11.387 11.377 1.1383 11.383 1.1482 30 Note: Stde: 300 Report Start Date: Stde: 300 Role: Stde: Stde: RACP: 31 th, AROP: 46 tph Wole and Nore 80 StP = 270 psi StP = 200 psi Tonue = 4.1 KHIbs Tonue = 4.1 KHIbs Tonue = 54 KHibs Differential = 250 psi Stde: St 145 Nor: 80 78, A2M: 175.71, Tonue = 4.1 KHBsis Tonue = 4.1 KHBsis Tonue = 54 KHBrab: 11.452 11.452 <t< td=""><td></td><td>250 psi</td><td></td><td></td></t<>		250 psi		
11,084 - 11,107 - 11,107 - 11,137 11,137 - 11,140 - 11,222 11,137 - 11,140 - 11,222 11,237 - 11,237 - 11,237 11,237 - 11,240 - 11,327 11,237 - 11,240 - 11,327 11,327 - 11,410 - 11,437 - 11,410 - 11,507 Relate: Slide:				,
11.137 - 11.145 - 11.145 - 11.177 11.137 - 11.237 - 11.237 - 11.237 - 11.237 11.237 - 11.237 - 11.237 - 11.327 11.377 - 11.383 - 11.383 - 11.410 Note: Last Survey: SD - 11.382, NC: 71 & A.2M. 174.82. TVD - 11.1320, NC: 397.5, DLS: 11.36 Report Start Date: 6/302014 Con Dill, side and survey 8 34" curve section from 11.410 to 11.503 Relate: Side: Motor PM = 140 Motor PM = 140 Motor PM = 140 Motor RPM = 140 Motor RPM = 145 SPP = 200 psi SPP		31'		
11.222 - 11.237 11.237 - 11.327 11.327 - 11.338 11.385 - 11.341 11.371 - 11.383 11.385 - 11.341 Note Report Start Date: 6739/2014 Con Report Start Date: 6739/2014 Con Con Report Start Date: 6739/2014 Con Con Con Con Con Con Con Con				
11.327 - 11.340 11.347 - 11.371 11.371 - 11.383 11.383 - 11.400 Note: Last Survey: SD 11.362, INC. 71.67, A2M, 174.82, TVD. 11.170.00, S397.6, DLS, 11.30 Report Start Date: 6/30/2014 Converse Continue of the start of the				
11.371'-11.383 11,383'-11,410' Note: Last Survey: So 11.302', INC, 71.6', AZM: 174.82, So 11.302', INC, 71.6', AZM: 174.82, TVD. 11.107', OK, VS: 337.6', DLS: 11.36 Report Start Date: G300'2014 Com Total: Solide: Solid: Soli				
Note: Last Survey: SD: 11.827, INC, 71.61, AZM, 174.82, TVD: 11.127, AZM, 174.82, TVD: 11.277, AZM, 174.82, TVD: 11.277, AZM, 174.82, TVD: 11.127, AZM, 114.83, TVD: 114.82,				
Lat Survey: SD 11,362, INC 71 6 ¹ , AZM: 174.82, TVD: 11.187.06, VS: 397.5, DLS: 11.36 Report Start Date: 6/30/2014 Con Con Drill, slide and survey 8 3/4 ⁺ curve section from 11,410 ⁺ to 11,503 ⁺ . Rotate: Slide: AROP: 31 fpin AROP: 46 fph WOB = 20 Klbs WOB = 13 - 25 Klbs RPM = 20 Motor RPM = 151 Motor RPM = 145 GPM = 520 GPM = 500 SPP = 2700 psi SPP = 2500 psi Driffeential = 250 psi Rotate: Slide: 11.469 ⁻ 11.433 ⁺ 11.456 ⁹ 11.469 ⁻ 11.433 ⁺ 11.457 ⁻ Note: Last Survey: SD 11451, INC: 80.79, AZM: 175.71, TVD: 11202.26, VS: 483.83, DLS: 10.30 PTE: 11503, INC: 80.79, AZM: 175.71, Above/Below: 5 Above, Left/Right 9 Left, DLN: 3.0 Circ & Condition well until clean up on shakers. Spot 80 bbls LCM pill to casing shoe. Flow cleak survey: SIGC: CO Directional tools. POI-HW IBHA from 1.800 ⁺ to 93: COO Directional tools. POI-W IBHA from 1.800 ⁺ to 93: COO Directional tools. POI: 8.344 ⁻ DPBOX jetted w6 6-145 (SK: 24XH165-147) Test Motor & MWD- test ok Clean and prep foor to 11H. Tit Hon 98 ⁺ to 4.929 ⁺ .				
SD: 11.362', INC: 71.6', AZM: 174.82, TVD: 11.187.06, VS: 397.5', DLS: 11.36 Report Start Date: 6/30/2014 Com Drill, slide and survey 8 3/4' curve section from 11.410' to 11.503'. Rotate: Slide: AROP: 31 fph AROP: 46 fph WOB = 20 Kbb WOB = 1325 Kbbs RPM = 20 Motor RPM = 151. Motor RPM = 151. Motor RPM = 154. Motor RPM = 520. GPM = 500 SPP = 2700 psi SPP = 2500 psi FOP = 2500 psi FOP = 2500 psi Rotate: Slide: 11.410' - 11.433' 11.433' - 11.459' 11.449' - 11.433' 11.433' - 11.459' 11.449' - 11.433' 11.433' - 11.503' Note: Last Survey: SD: 11451, INC: 80.79, AZM: 175.71, SD: 11451, INC: 80.79, AZM: 175.71, SD: 11451, INC: 80.79, AZM: 175.71, SD: 11451, INC: 80.79, AZM: 175.71, Above/Bebow' 5 Above, LetWiRght' 9 Leth, DLN: 3.0 Circ & condition well until clean up on shakers. Spot 80 bbls LCM pill to casing shoe. Flow check well: well static Pump slug and prep to trip out of hole. TOOH from 11.503' to 1.080' Note: Holt taking proper fill. PUI rotating pred POOH w/ BHA from 10.800' to 93'. C/O Directional tools. PU: 8 3/4' DP060X jetted w/ 6-14's (SN: 24XH165-147) Test Motor & MWD. Lest ok Clean and prep floor to TH. TH from 98' to 4.929'.	Note:			
TVD: 11,187.06, VS: 397.5, DLS: 11.36 Report Start Date: 6/30/2014 Com Drill, silde and survey 8 3/4* curve section from 11,410* to 11,503: Rotat: Silde: ACOP: 46 fph WOB = 13 - 25 Klbs WOB = 70 Mor PM = 151 More PM = 450 SPP = 200 psi SPP = 2500 psi Torque = 4.1 Kft*bs Torque = 4.21 Kft*bs Differential = 250 psi Differential = 250 psi <t< td=""><td></td><td></td><td></td><td></td></t<>				
Com Drill, slide an survey 8 344" curve section from 11,410" to 11,503". Rotate: Slide: AROP: 31 fph AROP: 46 fph WOB = 20 KW0 WOB = 13 - 25 Klbs RPM = 20 Motor RPM = 500 GPM = 500 SPP = 2700 psi SPP = 250 psi Torque = 4.1 KH*lbs Differential = 250 psi Differential = 250 psi Differential = 250 psi Torque = 4.1 KH*lbs Differential = 250 psi Torque = 4.1 KH*lbs Note: Slide: Last Survey: Slide: S0: 1451, INC: 60.79 A2M: 175.71. TVD: 11208 26, VS: 483.83, DLS: 10.30 PTB: 11503, INC: 60.79 A2M: 175.71. TVD: T1208 26, VS: 483.83, DLS: 10.30 PTB: 11503, INC: 60.79 A2M: 175.71. TVD: 11208 26, VS: 483.83, DLS: 10.30 PTB: 11503, INC: 60.79 A2M: 175.71. TDOH from 11,503' to 1.080 ^C . Core & condition well until clean up on shakers. Spot 80 bbls LCM pill to casing shoe. Flow check well - well static. Pump slug and prep to trip out of hole. TOOH from 11,503' to 1.080 ^C . POOH well HA from 1.080 ^C to 93 ^C . C(O Directind tools.		6		
Com Drill, slide an survey 8 3/4" curve section from 11,410" to 11,503". AROP: 31 fph AROP: 45 fph WOB = 20 KbW WOB = 13 · 25 Kbs RPM = 20 Motor RPM = 500 GPM = 500 SPP = 2700 psi SPP = 250 psi Torque = 4.1 Kf*1bs Torque = 9.5 Kf*1bs Differential = 250 psi Differential = 250 psi Differential = 250 psi	D			
Relate: Slide: AROP: 31 fph AROP: 46 fph WOB = 20 KB WOB = 13 - 25 Kbbs RPM = 20 Motor RPM = 151 Motor RPM = 500 SPP = 500 psi SPP = 500 psi Torque = 4.1 Kft'lbs Torque = 9.5 Kft'lbs Differential = 250 psi Offerential = 250 psi Slide: 11,410' - 11,433' 11,433' - 11,459' 11,439' - 11,483' 11,433' - 11,459' 11,459' - 11,483' 11,433' - 11,503' Note:			Com	
AROP: 31 fph AROP: 45 fph WOB = 20 Kbbs WOB = 25 Kbbs RPM = 20 Motor RPM = 151 Motor RPM = 150 SPP = 2700 psi SPP = 2700 psi SPP = 2700 psi SPP = 2500 psi Torque = 4.1 Kt*lbs Differential = 250 psi Torque = 4.2 Kt*lbs Differential = 250 psi Side: 11.433' 11.433' 11.459' 11.433' 11.433' 11.459' 11.433' 11.433' 11.459' 11.433' 11.433' 11.459' 11.433' 11.433' 11.459' 11.433' 11.433' 11.459' 11.450' 11.509' 11.500' 11.50	Drill, slide and survey 8 3/4" curve sect	ion from 11,410' to 11,503'.		
AROP: 31 fph AROP: 46 fph WOR = 20 Kbbs WOR = 20 Kbbs WOR = 20 Kbbs WOR = 13.25 Kbbs Arom 213.25 Kbbs Arom 214.25	Rotate: Slide:			
WOB = 20 Klbs WOD = 13. 25 Klbs RPM = 20 Motor RPM = 151 Motor RPM = 145 GPM = 520 GPM = 500 SPP = 2700 psi SPP = 250 psi Torque = 4.1 KK*1bs Torque = 9.5 K*1bs Differential = 250 psi Rotate: Silde: 11,410 - 11,433 11,433 - 11,459 11,410 - 11,433 11,433 - 11,503' Note: / Last Survey: / S0: 1461, INC: 80.79, AZM: 175.71, VD: 11208,26, VS: 483.83, DLS: 10.30 PTB: 11503, Inc: 86, Azm: 175.71, Nobove/Below: Above, LetivRight: 9 Left, DLN: 3.0 Circ & condition well until clean up on shakers. Spot 80 bbls LCM pill to casing shoe. Flow check well - well static. Pump slug and prep to trip out of hole. TOOH from 11,503 to 1,080'. Note: Hole taking proper fill. Puli rotating head. POOH will RHA from 1,080 to 93. C/O Directional tools. PU: 8 34" DP606X jetted w/ 6-14's (SN: 7151230) 6 34"7 R3 5 ABH @ 1.83 (SN: 24XH165-147) Test Motor & MWD- test ok		h		
Motor RPM = 145 GPM = 520 GPM = 500 SPP = 2700 psi SPP = 2500 psi Torque = 4.1 Kft/lbs Differential = 250 psi Differential = 250 psi Rotate: Slide: 11.410 - 11.433 11.433 - 11.459 11.443 11.433 - 11.459 11.459 - 11.483 11.483 - 11.459 Note: Last Survey: Sol. 14451. INC: 80.79, AZM: 175.71, Stor 1451. INC: 80.79, AZM: 175.71, Stor 1451. INC: 80.79, AZM: 175.71, Shove/Elefux: 5 Above, Left/Right: 9 Left, DLN: 3.0 Circ & condition well until clean up on shakers. Spot 80 bbis LCM pill to casing shoe. Flow check well - well static. Pump slug and prep to trip out of hole. TOOH from 11.503 to 1.0807. Note: Hole taking proper fill. PULI rotating head. POOH will BHA from 1.080 to 93 CirC Directional tools. P/U: 8.347 / 78.3 5 ABH @ 1.83 (SN: 24XH165-147) Test Motor & MWD- test ok Clean and prep floot to TIH. TIH from 98' to 4.929'. 				
GPM = 500 SPP = 2700 psi SPP = 2500 pi Torque = 4.1 Kft tbs Torque = 9.5 Kft tbs Differential = 250 psi Rotate: Side: 11,410 - 11,433 11,433 - 11,459 11,459 - 11,483 11,483 - 11,503 Note: Last Survey: SD: 11451, INC: 80, 79, AZM: 175,71, TVD: 11208, 26, VS: 483,83, DLS: 10.30 PTB: 11503, Inc: 86, Azm: 175,71, Above/Below: 5 Above, Left/Right: 9 Left, DLN: 3.0 Circs & condition well until clean up on shakers. Spot 80 bbls LCM pill to casing shoe. Flow check well - well static. Pump slug and prep to trip out of hole. TOOH from 11,503' to 1,080. Note: Hole taking proper fill. PUI totating head. POOH w/ BHA from 1,080' to 93. C/O Directional tools. PU: 8 3/4* DP606X jetted w/ 6-14's (SN: 7451230) 6 3/4* 7/8 3.5 ABH @ 1.83 (SN: 24XH165-147) Test Motor & MWD- test ok Clean and prep floor to TIH. TIH from 98' to 4,929'.		151		
SPP = 2500 psi Torque = 4.1 Kft*lbs Differential = 250 psi Differential = 250 psi Rotate: Silde: 11,410 ⁻ 11,433 ⁻ 11,433 ⁻ 11,459 ⁻ 11,483 ⁻ 11,483 ⁻ 11,483 ⁻ 11,483 ⁻ N1,459 ⁻ 11,483 ⁻ 11,483 ⁻ 11,459 ⁻ , Last Survey: , Sole: , Flow: , Sole: , Flow: , Sole: , Flow: , Flow: , Flow:				
Torque 9.5.5 KR*bs Differential = 250 psi Rotate: Side: I1,410 - 11,433 11,433 - 11,503 Vitage: 11,483 - 11,503 Note: / Last Survey: 50: 11,433 - 11,503 SD: 11,451, INC: 80.79, AZM: 175.71, / TVD: 11208, GX VS: 483.83, DLS: 10.30 PTB: 11503, Inc: 86, Azr: 175.71, Above/Below: 5 Above, Left/Right: 9 Left, DLN: 3.0 / Circ & condition well until clean up on shakers. Spot 80 bbls LCM pill to casing shoe. / Flow check well - well static. Pump slug and prep to trip out of hole.				
Differential = 250 psi Rotate: Slide: 11,410 - 11,433' 11,433' - 11,459' 11,433' 11,483' - 11,503' Note: Last Survey: So: 14451, INC: 80.79, AZM: 175.71, TVD: 11208.26, VS: 483.83, DLS: 10.30 PTB: 11503, Inc: 86, AZm: 175.71, Above/Below: 5 Above, Left/Right 9 Left, DLN: 3.0 Circ & condition well until clean up on shakers. Spot 80 bbls LCM pill to casing shoe. Flow check well - well static. Pump slug and prep to trip out of hole. TOOH from 11,503' to 1,080'. Note: Hole taking proper fill. Pull rotating head. PCOH wi BHA from 1,080' to 93'. Ciro Directional tools. P(U): 8 3/4' DP6065 jetted w/ 6-14's (SN: 7415230) 6 3/4' 7/8 3.5 ABH @ 1.83 (SN: 24XH165-147) Test Motor & MWD- test ok Clean and prep floor to TIH. TIH from 98' to 4,929.				
11,410'- 11,433' 11,433' 11,459' 11,459'- 11,483' 11,583' 11,58' 11,583' 11,583' 11,583' 11,583' 11,583' 11,583' 11,5		200 pai		
11,410'- 11,433' 11,433' 11,459' 11,459' 11,483' 11,483' 11,483' 11,459' 11,483' 11,483' 11,483' 11,459' 1,483' 11,483' 11,459' 1,484' 11,484' 11,485' 11,485' 1,484' 11,484' 11,485' 11,	Rotate: Slide:			
11,459'-11,483' 11,483'-11,503' Note: Last Survey: SD: 11451, INC: 80.79, AZM: 175.71, TVD: 11208 26, VS: 483.83, DLS: 10.30 PTB: 11503, Inc: 86, Azm: 175.71, Above/Below: 5 Above, Left/Right: 9 Left, DLN: 3.0 Circ & condition well until clean up on shakers. Spot 80 bbls LCM pill to casing shoe. Flow check well - well static. Pump slug and prep to trip out of hole. TOOH from 11,503' to 1,080'. Note: Hole taking proper fill. Pull rotating head. POOH w/ BHA from 1,080' to 93'. C/O Directional tools. P/U: 8 J4# DP606X jetted w/ 6-14's (SN: 27151230) 8 J4# 718 3.5 ABH @ 1.83 (SN: 24X1165-147) Test Motor & MVVD- test ok Clean and prep floor to TIH. TIH from 98' to 4,929'.		59'		
Note: Last Survey: SD: 11451, INC: 80.79, AZM: 175.71, TVD: 11208.26, VS: 483.83, DLS: 10.30 PTB: 11503, Inc: 86, Azm: 175.71, Above/Below: 5 Above, Left/Right: 9 Left, DLN: 3.0 Circ & condition well until clean up on shakers. Spot 80 bbls LCM pill to casing shoe. Flow check well - weil static. Pump slug and prep to trip out of hole. TOOH from 11,503' to 1,080'. Note: Hole taking proper fill. Puil rotating head. POOH w/ BHA from 1,080' to 93'. C/O Directional tools. P/U: 8 3/4" DP606X jetted w/ 6-14's (SN: 7151230) 6 3/4" 7/16 3.5 ABH @ 1.83 (SN: 24XH165-147) Test Motor & MVVD- test ok Clean and prep floor to TIH. TIH from 98' to 4,929'.				
SD: 11451, INC: 80 79, AZM: 175.71, TVD: 11208.26, VS: 483.83, DLS: 10.30 PTB: 11503, Inc: 86, Azm: 175.71, Above/Below: 5 Above, Left/Right: 9 Left, DLN: 3.0 Circ & condition well until clean up on shakers. Spot 80 bbls LCM pill to casing shoe. Flow check well - well static. Pump slug and prep to trip out of hole. TOOH from 11,503' to 1,080'. Note: Hole taking proper fill. Pull rotating head. POOH wi BHA from 1,080' to 93'. C/O Directional tools. P/U: 8 3/4" DP606X jetted w/ 6-14's (SN: 2151230) 6 3/4" 7/8 3.5 ABH @ 1.83 (SN: 24XH165-147) Test Motor & MWD- test ok Clean and prep floor to TIH. TIH from 98' to 4,929'.	Note:			7
TVD: 11208.26, VS: 483.83, DLS: 10.30 PTB: 11503, Inc: 86, Azm: 175.71, Above/Below: 5 Above, Left/Right: 9 Left, DLN: 3.0 Circ & condition well until clean up on shakers. Spot 80 bbls LCM pill to casing shoe. Flow check well - well static. Pump slug and prep to trip out of hole. TOOH from 11,503' to 1,080'. Note: Hole taking proper fill. Pull rotating head. POOH w/ BHA from 1,080' to 93'. C/O Directional tools. P/U: 8 3/4' 7/8 3.5 ABH @ 1.83 (SN: 24XH165-147) Test Motor & MWD- test ok Clean and prep floor to TIH. TIH from 98' to 4,929'.				
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Note: Hole taking proper fill. Pull rotating head. POOH w/ BHA from 1,080' to 93'. C/O Directional tools. P/U: 8 3/4" DP606X jetted w/ 6-14's (SN: 7151230) 6 3/4" 7/8 3.5 ABH @ 1.83 (SN: 24XH165-147) Test Motor & MVVD- test ok Clean and prep floor to TIH. TIH from 98' to 4,929'.				
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Clean and prep floor to TIH. TIH from 98' to 4,929'.	(SN: 24XH165-147)			
TIH from 98' to 4,929'.	Test Motor & MWD- test ok			
Page 13/20 Report Printed: 12	TIH from 98' to 4,929'.			······
Page 13/20 Report Printed: 12			Dama 40/00	
			Page 13/20	Report Printed: 12/17/20

Chevron		nmary Report	Dril Drill and Suspend Job Start Date: 6/9/2014 Job End Date: 7/15/2014			
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) Original RKB (ft)	Current RKB Elevation			er Depth (ft)		
3,508.00 3,533.00	3,533.00, 6/4/2014		I			
		Com				
lip and cut 14 wraps drlg line						
TH to 5,700' to conduct MWD test in op	en hole			·		
est MWD in open hole: test good TH to bottom, fill pipe and orient tool fa	es to bagin drilling lateral eastig					
Report Start Date: 7/1/2014		·				
		Com				
Rotate and slide F/ 11,503' T/11,732'						
Rotate: AROP: 38 fph WOB = 25 Klbs RPM = 50 Motor RPM = 75 GPM = 500 SPP = 2500 psi Torque = 15 Kft*lbs Differential = 300 psi			·			
Rotate and slide F/11,732' T/11,988'						
Rotate: AROP: 43 fph WOB = 30 Klbs RPM = 67 Motor RPM = 76 GPM = 507 SPP = 2675 psi Torque = 20 Kft*lbs Differential = 400 psi						
Rotate and slide F/11,988' T/12,268' Rotate: AROP: 51 fph NOB = 30 Klbs RPM = 60						
Motor RPM = 76 GPM = 505 SPP = 2700 psi Torque = 20 Kft*lbs Differential = 375 psi						
Rig service Rotate and slide F/12,268' T/12,565'						
Rotate and side $772,200$ $772,000$ Rotate: AROP: 50 fph WOB = 30 Klbs RPM = 70 Motor RPM = 76 GPM = 505 SPP = 2775 psi Torque = 20/23 Kft*lbs Differential = 375 psi						
Report Start Date: 7/2/2014						
		Com				
Rotate and slide F/12,565' T/12,805' AROP: 40 fph WOB = 28-30 Klbs RPM = 67 Motor RPM = 76 GPM = 505 SPP = 2750 psi Forque = 21 Kft*lbs Differential = 375 psi						
		Page 14/20	Report Print	ed: 12/17/201		



Well Name	Lease	Field Name	Job End Date: 7/15/201 Business Unit
GRAMMA RIDGE 14-24-34 002H	Gramma Ridge 14-24-34 Current RKB Elevation	Red Hills North	Mid-Continent
Fround Elevation (ft) Original RKB (ft) 3,508.00 3,533.00	0 3,533.00, 6/4/2014		Mud Line Elevation (ft) Water Depth (ft)
		Com	
Rotate and slide F/12,805' T/13,095'			
AROP: 45 fph	\$		
WOB = 20-30 Klbs			
RPM = 70 Motor RPM = 76			
GPM = 505			
SPP = 2800 psi			
Torque = 22 Kft*lbs Differential = 350 psi			
Rotate and slide F/13,095" T/13,397		·····	
AROP: 50 fph			
WOB = 18-24 Klbs RPM = 70			
Motor RPM = 76			
GPM = 505			
SPP = 2700 psi Torque = 23 Kft*lbs			
Differential = 400 psi			
Rotate and slide F/13,397' T/13,611'			
AROP: 86 fph			
WOB = 30 Klbs			
RPM = 70 Motor RPM = 76			
GPM = 505 '			
SPP = 2800 psi			
Torque = 23 Kft*lbs			
Differential = 350 psi			
Rig Service			
Rotate and slide F/13,611' T/13,729'			
AROP: 39 fph			
WOB = 30 Klbs			
RPM = 70 Motor RPM = 76			
GPM = 505			
SPP = 2800 psi			
Torque = 23 Kft*lbs			`
Differential = 350 psi			
Report Start Date: 7/3/2014		Com	
Rotate and slide F/13,729' T/14,059'			
AROP: 71 fph			
WOB = 22 Klbs RPM = 67			
Motor RPM = 76			
GPM = 505			
SPP = 2900 psi Torque = 23.5 Kft*lbs			
Differential = 300 psi			
Rotate and slide F/14,059' T/14,388'	······		
AROP: 55 fph			
WOB = 18 Klbs			
RPM = 67 Motor RPM = 76			
GPM = 505			
SPP = 2900 psi			
Torque = 24 Kft*lbs			
Differential = 300 psi	······································		

Chevron	Sum	mary Report	Drill Drill and Suspend Job Start Date: 6/9/2014 Job End Date: 7/15/2014
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) Original RKB (ft)	Current RKB Elevation		Mud Line Elevation (ft) Water Depth (ft)
3,508.00 3,533.00	3,533.00, 6/4/2014		
		Com	
Rotate and slide F/ 14,388' T/14,685'			
AROP: 59 fph WOB = 22 Klbs			
RPM = 62			
Motor RPM = 76 GPM = 505			
SPP = 2900 psi		,	
Torque = 24 Kft*lbs Differential = 325 psi			
Rig Service			
Reboot MWD computer, cycle pumps			
Rotate and slide F/14,685' T/14,862'			·····
AROP: 45 fph			
WOB = 12 Klbs			
RPM = 67 Motor RPM = 76			
GPM = 505			
SPP = 2900 psi Torque = 24 Kft*lbs			
Differential = 325 psi			
Perform clean-up cycle. Reciprocate dri	I string while rotating at 70 rpm	and pumping 500 gpm. Pump 4 40 Bbl Hi	-vis sweeps.
Report Start Date: 7/4/2014			
Finish clean up cycle- Circulate sweeps	out of the hole while reciprocati	Com ng drill string.	
Rotate and slide F/14,862' T/15,096'			
AROP: 47 fph			
WOB = 12 Klbs			
RPM = 67 Motor RPM = 76			
GPM = 505			
SPP = 2900 psi Torque = 24 Kft*lbs			
Differential = 325 psi			
Rotate and slide F/15,096' T/15,420'			
AROP: 54 fph			
WOB = 24 Klbs RPM = 67			
Motor RPM = 76			
GPM = 505 SPP = 2850 psi			
Torque = 24 Kft*lbs			
Differential = 325 psi			
Rotate and slide F/14,420' T/15,642'		,	
AROP: 34 fph			
WOB = 22 Klbs RPM = 67			
Motor RPM = 76			
GPM = 505 SPP = 2700 psi			
Torque = 25 Kft*lbs			
Differential = 200 psi			0.1111.7/
Perform clean up cycle. Reciprocate dr Report Start Date: 7/5/2014	iii string while rotating @ 75 RP	M and pumping 550 GPM. Pumped (6) 4	ט טס דו-vis sweeps.
		Com	
Finish circulating clean up cycle.			
Flow check (Well Static). Spot 375 bbl I TOH F/15,642' T/10,796'.	ube pill F/15,642' T/10,646'. Pui	np Siug	· ······
Tight hole encountered at 10,796'. Bac	sream out of hole F/10 796' T/10).255'. Pump slug.	
L	······	Page 16/20	Ponort Brintody 49/47/9044
		Page 16/20	Report Printed: 12/17/2014

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Chevron	Sum	mary Report	Drill Drill and Suspend Job Start Date: 6/9/2014 Job End Date: 7/15/2014
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) Original RKB (ft)	Current RKB Elevation		Mud Line Elevation (ft) Water Depth (ft)
3,508.00 3,533.00	3,533.00, 6/4/2014		
L/D DP F/10,255' T/5,837'.		Com	
Pull into tight spot 80K over string weigh	t unable to come loose		
		Bbl H20 pill. Circ @ 600 GPM for 30 min v	while working pipe. Mix and spot 50 bbl
Pipelax pill (50bbls Diesel/4 Drums Pipe	ax, spot half in anulus and half ir	n string), continue working pipe.	while working pipe. Wix and spot of bor
Report Start Date: 7/6/2014			
Working stuck pipe @ 5,837'. P/U to 20	0k. S/O to 50k. Applying and rele	Com easing 23.5k rotary torque	
(Cleaning and organizing rig and location		<u> </u>	
Working stuck pipe @ 5,837'. P/U to 20	0k, S/O to 50k. Applying and rele	easing 23.5k rotary torque.	
(Recieve and inspect fishing tools on loc	ation. Held BOP, Fire, Man dowr	n, and Spill drills with day rig crew)	
Working stuck pipe @ 5,837". P/U to 20	0k, S/O to 50k. Applying and rele	easing 23.5k rotary torque.	
(Evaluate and plan job steps for upcomi	ng free point, back off, and fishin	g operations. Held BOP, Fire, Man down,	Spill drills with night rig crew.)
Report Start Date: 7/7/2014			
Working stuck pipe at 5740', P/U to 200	K. S/O to 50k. Apply 20k rotary to	Com	
M/U Side entry assembly on ground, p		-	
Hang wireline sheaves and run wireline.			
Run in hole with wireline and free point.	Find free point. Use P/U 190K, S	6/O 145K and 7K ft/lbs torque to find free p	oint. Free point found at top of BHA
Run in hole with string shot to back off a out of hole, charge did not fire	t 5,256'. Put back-torque in pipe	to 16K ft/lbs (5-1/2 wraps) and attempt to f	ire shot, pipe did not back off. Pull wireline
Lay string shot down and re-dress to atte	empt back-off again.		
Report Start Date: 7/8/2014		0	
Run in hole with string shot and free pipe	e at 5,256'. L/D wireline and tools	Com B. Rig down . Pipe free, P/U: 140K.	
Pump 30 bbls of 10 ppg Brine and prepa	are to TOH.		
TOH F/5642', L/D shot Jt. (Hole taking p	propper fill)		
Pull Rotaitng Head and Wear bushing f			
PJSM W/tester, set test plug, fill stack an			
valve manual HCR. Test 5- Upper pipe i Inner kill valve, chokes (Bump test 5000	ams, Check valve, Inner manifol psi). Test 8- Blind rams, Inner kill psi low/4000 psi high). Test 11- l	I valve, # 5 valve behind choke. Test 9- Te IBOP. Test 12- Manual IBOP. Test 13- TIV	e, Outer manifold valves. Test 7-Blind rams, st 4" Mud pump valves (250 psi low/4000 psi
Service Rig. Change out dies on top driv	'e.		
P/U fishing assembly:			
Screw in sub, bumper sub, XO, drilling ja	ars, 9 6-1/4" DC, XO, accelarator,	, XO	
Report Start Date: 7/9/2014			
Install Rotating head and TIH T/5245'.		Com	
Screw into fish and Jar free.			
Neutral Wt-150K, P/U to 170K S/O to 70	K to fire jars, took 24 hits to free.		
Backream out of hole F/ 5252' T/ 5340'			
Note: Slow trip out, breaking out connect	tions using scorpion		
Pump slug. Check for flow.			
Cont. TOH F/ 5340' T/ 1046'.			
Pull Rot Head. Install trip nip			
		·····	
		;	



Well Name	Le	ase	Field Name		Business Unit	
GRAMMA RIDGE 14-24-34 002H		ramma Ridge 14-24-34	Red Hills North		Mid-Continent	
Ground Elevation (ft) Original RKB (ft)		rrent RKB Elevation			Mud Line Elevation (ft)	Water Depth (ft)
3,508.00 3,5	533.00 3,	533.00, 6/4/2014	· · · · · · · · · · · · · · · · · · ·		L	l
·		·	Com			
TOH F/ 1056' T/ 356'.			·······			
L/D XO, Accelerator, XO, 9 6" DC,	, Jars, XO	i, Bumper Sub, Screw In Sub				
Recover 100% of fish: L/D 11 jts.	of 5" DP.	Flex JT. Monel, Muleshoe, motor	. bit sub. 8-3/4" bit			
	,		,			
Clear rig floor of slip, trip, and fall I	hazards.					
Rig service- Grease Blocks, Crow	vn, Top D	rive, Draw works. Inspect bocks	, top drive and derrick due to	previous jarring o	perations.	
Install wear bushing						
Lay out and strap DC and DP to b	e picked	up for reamer run.				
Report Start Date: 7/10/2014						
		·	Com			
M/U Reaming assembly, P/U 5" D	P F/122'	T/4952'.				
TIH F/4952' T/5465'. (P/U Jars an	nd 2 jts H	WDP @ 5222'. Install Rot Hd @	5315')			
Ream F/5465' T/6200'.		······································			•••••••••••••••••••••••••••••••••••••••	
Note: Previously stuck with lateral	BHA @ 5	5,837' and had to backream out v	with fish.			
Circulate bottoms up.						
TIH F/6200' T/13,274'. (Reaming I	F/10,640'	T/10,687')				
Note:Tripping in as the hole would	ne wolle h	d reaming when necessary				
Circulate bottoms up.						
TIH F/13,274' T/14,500'						
Reaming F/13,400 T/13,460'. F/1	3,780 T/1	3,920'.				
 Note:Tripping in an the hole would		d rooming when personal				
Note:Tripping in as the hole would						
Circulate bottoms up.						
Reaming F/14,500' T/14,690'						
Report Start Date: 7/11/2014						
Ream F/ 14,690' T/ 14,815'			Com			
TIH F/ 14,815' T/ 15,570'					······	······
Ream F/ 15,570' T/ 15,642			·			
Circulate 3 btms up		····		<u> </u>		
, , , , , , , , , , , , , , , , , , , ,						
Spot Lube Pill			····)		
TOH F/ 15,642' T/ 5,311'						
Rig Service						
TOH F/ 5,311 T/ 122'						
L/D drill pipe racked back in derric	ж 					
Report Start Date: 7/12/2014			Com	· · · · · · · · · · · · · · · · · · ·		
L/D DP racked back in derrick, rea	amers ar	1d 6" DC	Com			
Note:	<u>.</u>					
Pragma catwalk hydraulic hose (1 Pull wear busing @ 13:30	hr NPT)					
Clear rig floor						
Reamer condition: Minimal to no	wear on o	cutting surfaces or body.				
PJSM w/ casing company. R/U ca	asing runr	ning equipment.	<u> </u>			<u> </u>
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11						
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11						



	Lease	Field Name	Business Unit	
GRAMMA RIDGE 14-24-34 002H Ground Elevation (ft) Original RKB (ft)	Gramma Ridge 14-24-34	Red Hills North	Mid-Continent Mud Line Elevation (ft)	Water Depth (ft)
	3,533.00, 6/4/2014			
Run 5 ½" 17# HCP-110 CDC csg as follo	114/6 ·	Com		
Float Shoe	ws.			
2 Shoe Jts				
Float Collar				
1 Joint				
Landing Collar Pup Joint				
1 Joint				
RSCI Tool (Toe Sleeve)				·
Pup Joint				
119 Joints				
Marker Joint 261 Joints			,	
Pup & Casing Hanger				
	1			
Centralizer place 10' above FS, 10' abov	e FC, every joint from 15,430' - 14,615	', one every other joint to 14,615' -	11,552', one every third joint	t 11,552' - 4,485'.
Notified Patricia of NMOCD at 0225 hrs of	on 07/12/2014 of intent to run and cmt c	sa		
Details:			r	
Filled pipe every 30 joints				
Circulate b/u @ ' Washed csg f/ '				
Report Start Date: 7/12/2014				
		Com		
Den art Start Date: 7/12/2014				
Report Start Date: 7/13/2014		Com		,,
Run 5 1/2" 17# HCP-110 CDC csg as follo	JWS:			
Float Shoe				
2 Shoe Jts				
Float Collar 1 Joint				
Landing Collar				
Pup Joint				
1 Joint				
RSCI Tool (Toe Sleeve)				
119 Joints	-			
Marker Joint				
261 Joints				
Pup & Casing Hanger				
Centralizer place 10' above FS, 10' abov	e FC, every joint from 15,430' - 14,615	', one every other joint to 14,615' -	11,552', one every third join	t 11,552' - 4,485'.
Netified Detricia of NMOCD at 0325 bra	an 07/12/2014 of intent to run and amt a			
Notified Patricia of NMOCD at 0225 hrs o	on orrizizo 14 of intent to run and cmt o	,əy.		
Details:				
Filled pipe every 30 joints				
Washed csg f/ 5,786' - 5,800' Circulate b/u @ 10640'				
Max Gas 1245 units				
Tagged btm @ 15,654'				
R/D Express casing running equipment a	and CRT			
PJSM w/ Halliburton cementers. R/U Ha				
Circulate 1.5 btms up				
Note:				
Max Gas 1650 Units	· · · · · ·			
Shut in well due to H2S alarm (Alarm wa	is malfunctioning) 0 psi shown on casin	g pressure gauge. (2100-2130 hrs)	· · · · · · · · · · · · · · · · · · ·	
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Chevron	Sumi	mary Report	Drill Drill and Suspend Job Start Date: 6/9/2014 Job End Date: 7/15/2014
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) Original RKB (ft) 3,508.00 3,53	Current RKB Elevation 3.00 3,533.00, 6/4/2014		Mud Line Elevation (ft) Water Depth (ft)
		Com	
Perform cmt job as follows: Pressure test lines to 5000 psi Pump 20 bbls of dyed fresh water at Mix and pump 635 sxs (288 bbls) of Mix and pump 1525 sxs (493 bbls) of Mix and pump 100 sxs (100 bbls) of Drop top plug and displace cmt w/24 Bump plug with 500 psi over final cii Bleed off pressure – floats held 3.0	Flead at 11.3 ppg. of 2nd lead at 12.5 ppg. tail at 15 ppg. 4 bbls MSA and 346.5 BBLS fresh wate rculating pressure.	er (370.5 bbls displcement total).	
Details: Full to Partial returns throughout job Final circulation pressure prior to bu No cement or spacer to surface. Cmt in place at 02:25 hrs on 7/14/20	mping plug 2114 psi at 3.1 bpm		
Actual displacement of 370.5 bbls w IDs on casing. Did not bump after p bbls and plug bumped.	vas 9.5 bbls over calculated displacem umping the 6.5 bbls. Halliburton made	ent of 361 bbls including half shoe trac recommedation to pump annular volur	k. Pumped 6.5 bbls over due 30 joint average of ne from shoe to RSCI tool (8 bbls). Pumped 3
Report Start Date: 7/14/2014		Com	· · · · · · · · · · · · · · · · · · ·
Bump plug with 500 psi over final cii Bleed off pressure – floats held 3.0 Details: Full to Partial returns throughout job Final circulation pressure prior to bu No cement or spacer to surface. Cmt in place at 02:25 hrs on 7/14/20 Actual displacement of 370.5 bbls w	f lead at 11.3 ppg. of 2nd lead at 12.5 ppg. f tail at 15 ppg. 4 bbls MSA and 346.5 BBLS fresh wate rculating pressure. bbls bleed back o. imping plug 2114 psi at 3.1 bpm 014. vas 9.5 bbls over calculated displacem	· · ·	k. Pumped 6.5 bbls over due 30 joint average of Pumped 3 bbls and plug bumped.
R/D Halliburton cementers			
	packoff to 5000 psi (test good). Instal	I BPV.	
N/D BOP Install and test tubing head to 4500	psi.		
R/D Ensign 153 and prepare for mo	bilization.		
Rig released @ 00:00 hrs on 7/15/2	014		



Field Name Business Unit Red Hills North Mid-Continent				
Job Category Start Date Release D	Date			
6/9/2014 7/15/2014				
ings				
	Set Dept MD) (ftKI			
13 3/8 48.00 H-40 ST&C	1,1			
e Casing 9 5/8 40.00 HCK-55 LT&C	5,3			
Casing 5 1/2 17.00 P-110	15,6			
ings at 10,411.9ftKB on 11/26/2014 07:00				
ion Run Date String Length (ft) Set Depth	(MD) (ft)			
11/26/2014 10,386.92	10,41			
	Btm (ftKB			
	29 10,293			
	10,293			
	10,292			
	10,295			
	10,298			
	. 5,507			
SXD H6) 134 1 4 23.55	10,330			
SXD H6) 134 1 4 23.55	10,354			
SXD H6) 24 1 4 10.05	10,364			
	10,304			
tor 1 4.30	10,368			
	10,374			
1 6.10	10,380			
50/FMH) 1 4 1/2 27.10	10,407			
1 4.10	10,411			
IS				
Shot Dens Entered Shot				
Top (ftKB) Btm (ftKB) (shots/ft) Total Zone & Completion	1.			
12,104.0 12,105.0 6.0 6 Bone Springs, Original Hol	le			
12,159.0 12,160.0 6.0 6 Bone Springs, Original Hol	le			
12,214.0 12,215.0 6.0 6 Bone Springs, Original Hol	le			
	<u>.</u>			
12,268.0 12,269.0 6.0 6 Bone Springs, Original Hol	ie			
12,325.0 12,326.0 6.0 6 Bone Springs, Original Hol	le			
	-			
12,382.0 12,384.0 6.0 12 Bone Springs, Original Hol	le			
	<u> </u>			
12,429.0 12,431.0 6.0 12 Bone Springs, Original Hol	le			
12,487.0 12,488.0 6.0 6 Bone Springs, Original Hol	le			
12,490.0 12,491.0 6.0 6 Bone Springs, Original Ho	le			
12,492.0 12,493.0 6.0 6 Bone Springs, Original Ho	le			
12,546.0 12,548.0 6.0 12 Bone Springs, Original Ho				
12,546.0 12,548.0 6.0 12 Bone Springs, Original Ho	ne Ne			
12,603.0 12,605.0 6.0 12 Bone Springs, Original Ho	le			
	-			
12,660.0 12,661.0 6.0 6 Bone Springs, Original Ho	ole			
ge 1/6 Report Printed: 7				



i

Wellbore Schematic

Il Name RAMMA RIDGE 14-24-34 002H Gramma Ridge 14-2-			4	Field Name Red Hills Nor	th			ess Unit Continent		
	and - Original Hole, 12/1	7/2014 10:03:11 AM	Perforatio	ns						
MD tKB)	Vertical sche	matic (actual)				Shot Dens	Entered Shot			
		- (ang and 1986 AST 27 (198 AST) - may be and 1977 (198 AST) - may be and 1977 (198 AST)	Date	Top (ftKB)	Btm (ftKB)	(shots/ft)	Total	Zone & Completion		
55725		ατι μαγγαρί του έναι το	9/17/2014	12,715.0	12,716.0	6.0	6	Bone Springs, Original Hole		
200		na ann a dha a' an an ann an an an ann an ann an ann an a	9/17/2014	12,770.0	12,771.0	6.0	6	Bone Springs, Original Hole		
29.2		- α _μ μ _μ (β) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2								
.192.9		— """""""""""""""""", "", ",	9/17/2014	12,824.0	12,826.0	6.0	12	Bone Springs, Original Hole		
250 0			9/17/2014	12 881 0	12,883.0	6.0	12	Bone Springs, Original Hole		
370 1		tions are filmened (10.32) (10.40) (10.	·	12,00110	12,000.0	0.0		Bone opinige, original field		
0 295 3		παραγματικό ματικοποιατικού του Παραματικού Νοματικός του ματικού ματικού του Παραματικού παραγματικού παραγματικού ματικού ματικού ματικού ματικού ματικού ματικού ματικού ματικού ματικού μ Παραγματικού παραγματικού ματικού ματικ	9/16/2014	12,938.0	12,939.0	6.0	6	Bone Springs, Original Hole		
0.354 3		na nam yan shi ku	9/16/2014	12 003 0	12,994.0	6.0	6	Bone Springs, Original Hole		
0,380 0			10/2014	12,995.0	12,334.0	0.0	0	Bone Springs, Original Hole		
0 432 4			9/16/2014	13,048.0	13,049.0	6.0	6	Bone Springs, Original Hole		
2.160 1		- marinan (274)238 38(24)	9/16/2014	10,400,0	10 10 1 0					
1,259 0			19/16/2014	13,102.0	13,104.0	6.0	12	Bone Springs, Original Hole		
383 9			9/16/2014	13,159.0	13,161.0	6.0	12	Bone Springs, Original Hole		
24879										
			9/16/2014	13,216.0	13,217.0	6.0	6	Bone Springs, Original Hole		
2,493 (9/16/2014	13,271.0	13,272.0	6.0	6	Bone Springs, Original Hole		
12,605 0		•		/0,2110	10,212.0	0.0		sono opinigo, original riolo		
2,715.0			9/16/2014	13,326.0	13,327.0	6.0	6	Bone Springs, Original Hole		
2289 0 2383 9 2487 9 2487 9 2487 9 2487 9 2486 0 2586 0			9/16/2014	13 380 0	13,382.0	6.0	12	Bone Springs, Original Hole		
2,939 0		menene (2006) an engers	9/10/2014	13,300.0	15,502.0	0.0	12	bone Springs, Original Hole		
3 048 9		ر بین میرانید (۲۰۱۵ تا ۱۹۹۵) . میرانید (۲۰۱۵ تا ۱۹۹۵) .	9/16/2014	13,437.0	13,439.0	6.0	12	Bone Springs, Original Hole		
3 161.1			0/10/2014		10.405.0					
13 272 0			9/16/2014	13,494.0	13,495.0	6.0	6	Bone Springs, Original Hole		
13 361.9			9/16/2014	13,549.0	13,550.0	6.0	6	Bone Springs, Original Hole		
13 495 1	1 🖾 🔤									
3 605 0			9/16/2014	13,604.0	13,605.0	6.0	6	Bone Springs, Original Hole		
3,716.9			9/16/2014	13 658 0	13,660.0	6.0	12	Bone Springs, Original Hole		
3 828 1										
3,938.0		- (and the (1979-1982-1992-1)	9/16/2014	13,715.0	13,717.0	6.0	12	Bone Springs, Original Hole		
4 050 9			9/16/2014	13 772 0	13,773.0	6.0		Bone Springs, Original Hole		
4191.1		2017 (and any 1937) 2017 (2017) 2017 (2017) 2017 (2017) 2017 2017 (201		10,772.0	13,775.0	0.01	U	Bone Springs, Original Tole		
2730		Be want Han (* 125 - 125 - 1125) (* want han (* 125 - 125 - 1125) Al (* want han (* 125 - 125 - 1125) Be want han (* 125 - 126 - 1125) Be want han (* 125 - 126 - 1125) Be want han (* 125 - 125 - 125) Be want han (* 125 - 125)	9/16/2014	13,827.0	13,828.0	6.0	6	Bone Springs, Original Hole		
3.9350 4.000			0/16/2011	12 000 0	12 802 0			Papa Springe Original List-		
		- Containing Space (Containing) - Marchanne State (Containing	9/16/2014	13,882.0	13,883.0	6.0	6	Bone Springs, Original Hole		
4 494 1		5 (and man, 1979) 1979 1979 Tangkang 1978 1989 198 199 192 199 Tangkang 1978 1989 198 198 197 197 Tangkang 1978 198 198 197 197 207 197 Tangkang 1978 1978 197 197 197 197 Tangkang 1978 1978 198 197 197 197 Tangkang 1978 1978 198 197 197 197 Tangkang 1978 1978 198 198 197 197 Tangkang 1978 1978 1978 197 197 Tangkang 1978 1978 1978 197 197 Tangkang 1978 1978 1978 1978 1978 1978 1978 Tangkang 1978 1978 1978 1978 1978 1978 1978 1978	9/16/2014	13,936.0	13,938.0	6.0	12	Bone Springs, Original Hole		
4 607 0		ининд Сами Ч. Хайн Үү (2) (4) (8) (70 (2) (2) - Самиранын нэг (2) (2) (2) (2) (2) (2) (2) (2) (2) - Ганаранын (2) (2) (2) (2) (2) (2) (2) (2) (2) (2)								
147169		- And Carlo つんりえる。 - And Carlo つんりえる。 - And Carlo (Article Article) - And Carlo (Article Article)	9/16/2014	13,993.0	13,995.0	6.0	12	Bone Springs, Original Hole		
4 829 1			9/16/2014	14,050.0	14,051.0	6.0	6	Bone Springs, Original Hole		
4940.0										
5,049 9			9/16/2014	14,105.0	14,106.0	6.0	6	Bone Springs, Original Hole		
5 163 1			9/16/2014	14 160 0	14,161.0	6.0	R	Bone Springs, Original Hole		
6,251.3			5/10/2014	14,100.0	14,101.0	0.0	0			
15 303 5			9/16/2014	14,214.0	14,216.0	6.0	12	Bone Springs, Original Hole		
9 328 1										
5 382 9			9/16/2014	14,271.0	14,273.0	6.0	12	Bone Springs, Original Hole		
154173			9/15/2014	14.328.0	14,329.0	6.0	6	Bone Springs, Original Hole		
5 542.7		nen jaan ja Arika (ka Arika (ka Arika) ja Menan dara (ka Arika) ika ka Arika (ka Arika) ja Menan jaan ja Ka Arika (ka Arika) ja			,					
- I - XX	A 1	14 Mar 1964 1968 14 518 18								



Well Name	e MA RIDGE 14-24-34 002H	Lease Gramma Ridge 14-24-34		eld Name ed Hills Nor	ih		Business Unit Mid-Continent		
	 Land - Original Hole, 12/1 	7/2014 10:03:12 AM	Perforations	Perforations					
MD (ftKB)	Vertical sch	ematic (actual)				Shot Dens	Entered Shot		
-18.677.0			Date 9/15/2014	Top (ftKB) 14,383.0	Btm (ftKB) 14,384.0	(shots/ft) 6.0	Total	Zone & Completion Bone Springs, Original Hole	
-15 572 5			0/10/2014	17,000.0	17,304.0	0.0	0		
			9/15/2014	14,438.0	14,439.0	6.0	6	Bone Springs, Original Hole	
29-2		The Second Secon	9/15/2014	14 402 0	14,494.0			Popo Springe Original List-	
1,192.9			9/13/2014	14,492.0	14,494.0	6.0	12	Bone Springs, Original Hole	
5 290 0			9/15/2014	14,549.0	14,551.0	6.0	12	Bone Springs, Original Hole	
5,370 1		——	0/45/00/11						
10,295 3		— Бана нала (1) дал цал (10, 754,57) — Традицинана драго (10, 754,57) — Анар Бан (20, 44,47) (10, 10, 10, 10, 10, 10, 10, 10, 10, 10,	9/15/2014	14,606.0	14,607.0	6.0	6	Bone Springs, Original Hole	
10.354 3		nna 1,449 a' 141 a' 141 a' 141 a' 142 a' 152 a' 153 a' 153 a' 154 Na 1449 a' 1540 a' 154 a' 1540 a' 1540 a' 155 a' 155 a' 156	9/15/2014	14,661.0	14,662.0	6.0	6	Bone Springs, Original Hole	
10,380 6									
10 432 4			9/15/2014	14,716.0	14,717.0	6.0	6	Bone Springs, Original Hole	
12,160 1			9/15/2014	14,770.0	14,772.0	6.0	12	Bone Springs, Original Hole	
12 269 0						5.0	.2		
12,383 9			9/15/2014	14,827.0	14,829.0	6.0	12	Bone Springs, Original Hole	
12 487 9			9/15/2014	14 894 0	14,885.0	6.0	Ê	Bone Springs, Original Hole	
12,493 1			0110/2014	14,004.0	14,000.0	0.0	0	Done oprings, Onginal Hole	
12 605 0			9/15/2014	14,939.0	14,940.0	6.0	6	Bone Springs, Original Hole	
12,715 9	2664 2665 2605 2605		0/15/0011	140040	14.005.0			Dono Ontine Oriel 1111	
12 825 1			9/15/2014	14,994.0	14,995.0	6.0	6	Bone Springs, Original Hole	
12 939 0			9/15/2014	15,048.0	15,050.0	6.0	12	Bone Springs, Original Hole	
13 048 9	788 887								
			9/15/2014	15,105.0	15,107.0	6.0	12	Bone Springs, Original Hole	
13.161.1			9/14/2014	15.162.0	15,163.0	6.0	6	Bone Springs, Original Hole	
13 272 0									
13,381,9		παταγματί του τη αυτή που βαλή της ματολογιατίας που τομεί και η βαλή της φαλή της ποι τομεί και η βαλή της φαλή της	9/14/2014	15,217.0	15,218.0	6.0	6	Bone Springs, Original Hole	
13,495 1	2285		9/14/2014	15 272 0	15.273.0	6.0	F	Bone Springs, Original Hole	
13 605 0	500 500 500 500 500 500 500 500 500 500	and and a set of the s		10,212.0	10,210.0	0.0	0		
13.716 9			9/14/2014	15,326.0	15,328.0	6.0	12	Bone Springs, Original Hole	
13.828 1		= :	0/14/2014	15 202 0	15 395 0			Popo Springe Original Late	
13 938 0			9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole	
14 050 9		- Transformer for and a state of the Wellow	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole	
14 181.1			0/11/2011		45.00				
14 273 0		manatara (se isa) en artico (se isa) Paratara (se isa) el 2000 Caratara (se isa) el 2000 Caratara (se isa) el 2000 Paratara (9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole	
14,383 9		: :===================================	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole	
14 494 1 -									
14 607 0		" - δωμη μήξε η 1994 ΠΕ 14 4 102 (ΠΕ 17 καμηθμα ματ η 102 (ΠΕ 10 2 (ΠΕ 10)) παι ματ ματ η 102 (ΠΣ 10 2 (ΠΕ 10)) παι ματ η 102 (ΠΣ 10 10) παι ματ η 102 (ΠΣ 10) (ΠΕ 10) " ματ ματ η 102 (ΠΣ 10) (ΠΕ 10) " ματ ματ η 102 (ΠΣ 10) (ΠΕ 10) = ματ ματ η 102 (ΠΣ 10) (ΠΕ 10) (ΠΣ 10) (ΠΣ 10) (ΠΕ 10) (ΠΕ 10) (ΠΕ 10) (ΠΣ 10) (ΠΣ 10) (ΠΕ 10) (ΠΕ 10) (ΠΕ 10) (ΠΣ 10) (ΠΣ 10) (ΠΕ 10) (ΠΕ 10) (ΠΕ 10) (ΠΕ 10) (ΠΣ 10) (ΠΣ 10) (ΠΕ 10)	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole	
14 7 16 9			9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole	
14 829 1									
14 940 0	5000 I 5000 I	[2] 에 에 에 이 정정 해 가지?() 2] Anno 에 이 전 전 가지? 2] Anno 이 전 전 가지?() 2] Anno 이 전 전 가지?	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole	
15,049.9		- Long and A () () () () () () () () () - Long and A () () () () () () () () - Long and A () () () () () () () () () - Long and A () () () () () () () () () - Long and A () () () () () () () () () - Long and A () () () () () () () () () - Long and A () () () () () () () () () - Long and A () () () () () () () () () () () () ()	9/14/2014	15 383 0	15,385.0	6.0	12	Bone Springs, Original Hole	
15 163 1				10,000.0	10,000.0		12		
15 163 1			9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole	
}			0/14/2011		15 005 0			Pono Springe Organistillale	
15,303 5			9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole	
15,328 1			9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole	
15 382 9									
15 417.3			9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole	
15,542 7				1	1	l		l	
			J L	3/6				Report Printed: 12/17/2	



AMMA RIDGE 14-24-34 002H	34 F	Field Name Red Hills North				ess Unit Continent			
Land - Original Hole, 12/17	/2014 10:03:12 AM	Perforations	Perforations						
) Vertical sche	matic (actual)	,			Shot Dens	Entered Shot			
	1 (mag June - 16 66-16 57) 27 PA 4 (2) 4 HZ 3 A 1 June Prog June - 75 PT / HZ 1 HZ 1 HZ 3 S 1 June Prog - 17 PT > 14 YZ 1 PA 5 SZ 4 HZ 3 J	Date	Top (ftKB)	Btm (ftKB)	(shots/ft)	Total	Zone & Completion		
	, mang banang mengan pengan peng A mang banang dengan pengan pengan Pengan pengan pengan Pengan pengan	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
	Тата (АТ (А (А))) Тата (АТ (А))) Тата (АТ (А)) Тата (А)	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
		9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
	The Carlo Carlos (Carlos San J) The Carlos Carlos (Carlos San J) The Carlos Carlos (Carlos San J) The Carlos Carlos (Carlos San J)	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
	- ແມ່ນແມ່ນເປັນເປັນເປັນເປັນເປັນເປັນເປັນ - ແມ່ນແມ່ນເປັນເປັນເປັນເປັນເປັນ - ແມ່ນເປັນເປັນເປັນເປັນເປັນເປັນ - ແມ່ນເປັນເປັນເປັນເປັນເປັນເປັນເປັນ - ແມ່ນເປັນເປັນ- ແປນ - ແປນ - ແປນ- ເປັນ- ແປນ- ແປນ- ແປນ- ແປນ- - ແປນ- ແປນ- ເປັນ- ແປນ- ແປນ- ແປນ- ແປນ- ແປນ- - ແປນ- ແປນ- ແປນ- ແປນ- ແປນ- ແປນ- ແປນ- ແປນ	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
		9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
		9/14/2014	15,383.0	15,385.0	6.0		Bone Springs, Original Hole		
	المعتقد (22 م 22	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
938 425 9285 888 9388 965	"	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
		9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
	i manna (kai cat - naise) i manna (kai cat - naise) i manna (kai cat - naise)	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
3235 3235 4235 4235 4235 4235 4235 4235		9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
2331 355 2533 355 2535 355 2535 355 2535 355 2535 355 2535 355 2535 355 2535 355 2535 355 2535 355 2535 355 2536 355 2537 355 2538 355 2536 355 2537 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355	ատատությանը կանությունը»։ 	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
	- Anny Real II and II and II and II and II - Anny Real II and II - Anny Real II and I	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
2004 1955	ана на 1920-1920 Моли Пана на 1971-1920 умости Паната 2020 г.2010 Умости	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
5 588 588 588 588 588 588 588 588 588 5		9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
588 1 588	maanaan digana gaa ahaanaa maanaan iyoo ahaa ahaanaa Saaanaa iigoo ahaa ahaa a	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
3431 355 2551 505 7554 505		9/14/2014	,	15,385.0	6.0	12	Bone Springs, Original Hole		
5564 555 5564 555 5564 555	- Januara (1983) 98, 46200 Sanna Donaldor 98,000 Januara (1983) 99,999	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		
2000 0000 0000 0000 0000 0000 0000 000		9/14/2014		15,385.0	6.0		Bone Springs, Original Hole		
8881 8881 2884 8884 8886 8886		9/14/2014		15,385.0	6.0		Bone Springs, Original Hole		
500 1 900		9/14/2014		15,385.0	6.0		Bone Springs, Original Hole		
1986 1986 1986 1996 19		9/14/2014		15,385.0	6.0		Bone Springs, Original Hole		
8200 1 1022		9/14/2014		15,385.0	6.0		Bone Springs, Original Hole		
2000 9837 2008 882 2008 882 2009 882 2009 883		9/14/2014		15,385.0	6.0		Bone Springs, Original Hole		
2886 886 886		9/14/2014		15,385.0	6.0		Bone Springs, Original Hole		
		9/14/2014	15,383.0	15,385.0	6.0		Bone Springs, Original Hole		
		9/14/2014		15,385.0			Bone Springs, Original Hole		
		9/14/2014		15,385.0			Bone Springs, Original Hole		
	= Դունաս միջնում է 100,100,100,100,000 ● ռապետն միջնությունը է ներկացին է։ ■ ռապետն միջնությունը 100,000 է 100,000 ■ ռապետն միջնությունը է 100,100,000	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Springs, Original Hole		

Report Printed: 12/17/2014



Vell Name GRAMM	A RIDGE 14-24-34 002H	Lease Gramma Ridge 14-24-34		d Name d Hills Norf	.h			ess Unit Continent	
	Land - Original Hole, 12/17/	2014 10:03:12 AM	Perforations						
MD ftKB)	Vertical schen	natic (actual)				Shot Dens	Entered Shot		
15,572 5		мандаман, М.Б.К.(557), 19 – 19 (ад. 140) 5.4 манданда мар, 19 57 – 19 – 19 – 19 – 19 – 19 – 19 – 19 – 1	Date 9/14/2014	Top (ftKB) 15,383.0	Btm (ftKB) 15,385.0	(shots/ft) 6.0	Total		Zone & Completion
20.0		ապը կապ, 1975 օրես օրենիան է էլեն, 400,515՝ սովը Գերանը է 2014 օրեն է էլեն է էլեն, 2012 սովը Գերանը է 400,416,155 էլ էլեն 400,52			10,000.0	0.0	12	Done Opin	igo, onginarrioio
29 2 29 2			м 9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprir	ngs, Original Hole
1,192 9			9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprir	ngs, Original Hole
5.290 0		να δεν 2003, το 1974 ΒΕΙ 70 προτερικός το	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprir	ngs, Original Hole
10 295 3		السير العد الله العالية (ع) الله 20 من المرا العد الله العالية (ع) الله 20 من المرا العد الله العالية (ع) العالية (ع) العالية (ع) العد العد الله العالية (ع) العد الله 20 من العد الله العالية (ع) العد الله 20 من الله 20 من العد الله العالية (ع) العد الله 20 من الله 20 من	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprin	ngs, Original Hole
0 354 3		NAR BARNED NIN CHALLE KUDIN NA 2014 A 73 NARRAN BEN NIN CHALLE KUDIN NA 2014 A 73	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprin	ngs, Original Hole
0.432.4		المراجعة الارتباط المراجع المرا مستوالية منه الارتباط المراجع ال مستوالية الارتباط المراجع المرا	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprir	ngs, Original Hole
2,160 1		аналана (19-10) (19-10) (19-10) амалана (19-10) (19-10) (19-10) аналана (19-10) (19-10) (19-10)	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprin	ngs, Original Hole
2,269 D 2,383 9	1888		9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprin	ngs, Original Hole
iz 487 9 ·	333 856 333 460 363 660 363 660 363 660 363 660 363 660 363 660 363 660	ատությվան վան վար տիրու առուղատ վետ վեր տիրու	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprin	ngs, Original Hole
12 493 1 12.505 0		معدالت الاند ولاية بالاقلاب معدالت الاند الاليان ال	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprir	ngs, Original Hole
12,7159		aan in 174 5027 Aan 174 5027 Aan 174 5027	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprir	ngs, Original Hole
(2.826 1 (2.939 0		андан Ж.К. Жүда Улад Улад Улад Улад Улад Анд Анд Х.К. Х.	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprir	ngs, Original Hole
13,048 9		unite (1968) se eligere mentine (1988) se eligere	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprir	ngs, Original Hole
3 161.1	2688 8887	анбана (1999-1920) (1990-1) Санбана (199-1920) (1990-1) Санбана (199-1920) (1990-1)	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprir	ngs, Original Hole
13,381 9		aanaa 1999 (1999 (1999) aaniyaa 1999 (1999 (1999) 	9/14/2014	15,383.0	15,385.0	6.0	12	Bone Sprir	ngs, Original Hole
13 495 1	(202) 2020 - 1025		Other Strings						
3 605 0	3433 4454	1944 Time 1948 (2.0), 1962 14	Run Date	Pull Da	te Set	Depth (ftKB	2		Com
716 9			Other In Hole	I					
828 1		۰ 	Des	Top (f				ull Date	Com
938 0 050 9		aad fee 1380 3 ee angels aan fee 1380 3 ee angels	Bridge Plug (Permanent)	12,4	45. 12,4 0	47. 9/17 0	/2014 9/11	1/2014 Ot	osidian Caged Ball
181,1		annime to the SAUCH AND	Fasdrill Bridge Plug	12,6	32 12 6	34. 9/17	/2014 9/10	9/2014 Oi	osidian Caged Ball
273.0			(Permanent) Fasdrill		0	0	0, 10, 10		Sector Sugar Dail
363 B 494 1	- 200 - 765		Bridge Plug (Permanent)	12,9	0 12,9	12. 9/17	/2014 9/19	9/2014 OI	osidian Caged Ball
607 O ···	886 885	Shanay Seguri Yang Xing Xing Ying Xing Ying Xing 	Fasdrill			Ĩ			
7169	5201 6351 1200 602 1200 1002		Bridge Plug (Permanent)	13,7	188. 13,1 0	90. 9/16 0	/2014 9/19	9/2014 Ot	osidian Caged Ball
829 1	7000 s 2000 s 20		Fasdrill Bridge Plug	13,4		68. 9/16	/2014 9/19	9/2014 OI	osidian Caged Ball
5,049.9	5296 3 2953 22555 2 2555 22555 2 2555 22557 2 2555		(Permanent) Fasdrill		0	0	10011		
5 163 1 5,251 3			Bridge Plug (Permanent) Fasdrill	13,1	737. 13,7 0	'49. 9/16 0	/2014 9/19	9/2014 OI	bsidian Caged Ball
5.303 5			Bridge Plug	14,0		20. 9/16	/2014 9/19	9/2014 OI	bsidian Caged Ball
5.328 1			(Permanent) Fasdrill		0	0			
5 382 9		alanda da kata da kata ang kata da kata da ang kata ang kata da kata da ang kata ang kata da kata da kata da kata	Bridge Plug (Permanent) Fasdrill	14,3	300. 14,3 0	0 9/16	6/2014 9/18 	3/2014 OI	bsidian Caged Ball
5427		Na Cale Handson (2) Cale and 20 Na Bale Handson (2) Cale (2) (2) Sa Na Bale Handson (2) (2) (2) Sa Na Bale Handson (2) (2) (2) (2)			l	I		I	
	i		L Page	5/6				Ren	ort Printed: 12/17/2



ell Name RAMMA RIDGE 14-24-34 002H	Lease Gramma Ridge 14-24-34	Field N Red I	ame Hills North			Business Unit Mid-Continent			
Land - Original Hole, 12/1	7/2014 10:03:13 AM	Other In Hole							
AD KB) Vertical sche	ematic (actual)	Des Des	Top (ftKB)	Btm (ftKB)	Run Date	Pull Date	Con		
572 5		Bridge Plug (Permanent) Fasdrill	14,573. 0	14,575. 0	9/15/2014	9/18/2014	Obsidian Cage	d Ball	
		Bridge Plug (Permanent) Fasdrill	14,850. 0	14,852. 0	9/15/2014	9/18/2014	Obsidian Cage	d Ball	
		Bridge Plug (Permanent)	15,134.	15,138. 0	9/15/2014	9/18/2014	Obsidian Cage	d Ball	
3701 A A A A A A A A A A A A A A A A A A A	έν παριώ τη μεταγραγία το τους); «Τα πόμε το τους τους τους τους τους «Τα πόμε τους τους τους τους τους τους «Τα πόμε τους τους τους τους τους τους «Τα πόμε τους τους τους τους τους	Fasdrill							
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		Page 6/6					Report Printed:		



Casing Summary

ell Name RAMMA RIDGE 14-24-34 0	02H		dge 14-24-34		Field Name Red Hills North			iness Unit d-Continent		
ound Elevation (ft) Original RK 3,508.00		Current RKB Ele 3,533.00, 6/-					Muc	Line Elevation	(ft) Water Dep	th (ft)
	L									
rface, Planned?-N, 1,195 Depth (MD) (ftKB)	Set Tensic	n (kins)	String N	ominal OD (in)	String Min Drift (in)		tralizers		Scratchers	
	195	// (Kips)	String N		13 3/8	10			Scratchers	
s Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)	Len (ft)	P Burst (psi)	P Collapse (psi)
1 Wellhead	13 3/8	12.715	48.00		ST&C	20	28	8.00	r Barat (pai)	(pai)
1 Pup Joint	13 3/8	12.715	48.00	H-40	ST&C	28	32	4.00		
26 Casing Joint	13 3/8	12.715	48.00	H-40	ST&C	32	1,155	1,122.88		
1 Float Collar	13 3/8	12.715			ST&C	1,155	1,156	1.40		
1 Casing Joint	13 3/8	12.715	48.00	H-40	ST&C	1,156	1,193	36.60		
1 Float Shoe	13 3/8	12.715			ST&C	1,193	1,195	2.10		
termediate Casing 1, Plan	ned?-N. 5.3	63ftKB			······································					
et Depth (MD) (ftKB)	Set Tensio		String N	ominal OD (in)			ntralizers		Scratchers	
5,	363	·			9 5/8	8.688 38				
ts Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)	Len (ft)	P Burst (psi)	P Collapse (psi)
1 Casing Hanger + Pup	9 5/8	8.844		HCK-55	LT&C	24	29	5.00	3,950.0	4,230
13 Casing Joint	9 5/8	8.844	40.00	HCK-55	LT&C	29	5,289	5,259.49	3,950.0	4,230
8	0.510	0.044			L				0.050.0	1000
1 Float Collar	9 5/8	8.844	40.00	HCK-55	LT&C	5,289	5,290	1.45	3,950.0	4,230
2 Casing Joint 1 Float Shoe	9 5/8 9 5/8	8.844	40.00	HUK-55	LT&C LT&C	5,290	5,361 5,363	71.31	3,950.0 3,950.0	4,230
	9 5/6	0.044		L		5,301	5,303	1.02	3,950.0	4,230
roduction Casing, Planned						<u> </u>				
et Depth (MD) (ftKB)	Set Tensio	on (kips)	String N	ominal OD (in)	String Min Drift (in) 5 1/2		sco & Bow	Spring	Scratchers	
	· · · · · · · · · · · · · · · · · · ·					Top Depth	Btm Depth			P Collapse
its Item Des 0 Casing Pup Joint	OD (in) 5 1/2	ID (in) 4.892	Wt (lb/ft)	Grade P-110	Top Thread	(MD) (ftKB) -15,605	(MD) (ftKB) -15,605	Len (ft)	P Burst (psi)	(psi)
1 Casing Hanger	5 1/2	4.892		P-110		-15,605	-15,605	0.00		7,480
1 Casing Joint	5 1/2	4.892		P-110		-15,605	-15,577	27.78		7,480
1 Casing Pup Joint	5 1/2	4.892		P-110		-15,577	-15,573	4.57		7,480
1 Casing Hanger	5 1/2	4.892		P-110		-15,573	-15,573	0.25		7,480
26 Casing Joint	5 1/2	4.892		P-110		-15,573		10,578.85		7,480
1	0 112	1.002	11.00			10,010	1,001	10,070.00		1,100
1 Casing Pup Joint	5 1/2	4.892	17.00	P-110		-4,994	-4,989	4.57		7,480.
1 Casing Pup Joint	5 1/2	4.892	17.00	P-110		-4,989	-4,980	9.19		7,480
26 Casing Joint	5 1/2	4.892	17.00	P-110		-167	10,412	10,578.85		7,480
1										
11 Casing Joint	5 1/2	4.892	17.00	P-110		-4,980	-167	4,813.32		7,480
9 1 Casing Pup Joint	5 1/2	4.892	17.00	P-110		10,423	10,433	9.19		7,480
1 Casing Pup Joint 1 Casing Pup Joint	5 1/2	4.892		P-110 P-110	+	10,423	10,433	11.16		8,830
11 Casing Joint	5 1/2	4.778		P-110		10,412	15,251	4,813.32		7,480
9	51/2	7,002	11.00			10,400	10,201	4,010.02		, 1 00.
1 Toe Sleeve (RSCI)	5 1/2	4.778	17.00	P-110	1	10,433	10,438	5.49		8,830
1 Casing Pup Joint	5 1/2	4.778		P-110	<u> </u>	15,292	15,303	11.16		8,830
1 Casing Joint	5 1/2	4.892	17.00	P-110	1	15,251	15,292	40.93		7,480
1 Toe Sleeve (RSCI)	5 1/2	4.778	17.00	P-110		15,315	15,320	5.49		8,830
1 Casing Pup Joint	5 1/2	4.778		P-110		15,303	15,315	11.21		8,830
1 Casing Joint	5 1/2	4.892		P-110		15,322	15,362	40.93		7,480
1 Landing Collar	5 1/2	4.778		P-110		15,320	15,322	1.42		8,830
1 Casing Pup Joint	5 1/2	4.778		P-110		15,362	15,374	11.21		8,830
1 Casing Joint	5 1/2	4.892		P-110		15,374	15,415	40.88		7,480
1 Landing Collar	5 1/2	4.778		P-110		15,416	15,417	1.42		8,830
1 Float Collar	5 1/2	4.778		P-110		15,415	15,416	1.33		8,830
1 Casing Joint	5 1/2	4.892		P-110		15,499	15,540	40.88		7,480
	5 1/2	4.892	17.00	P-110		15,417	15,499	81.70		7,480
2 Casing Joint	5 1/2									
2 Casing Joint 1 Float Collar	5 1/2		17.00	P-110 P-110		15,541	15,543	1.33		8,830 8,830



Casing Summary

Well Name GRAMMA RIDGE 14-24-34 002H Ground Elevation (ft) Original RKB (ft)			_{Lease} Gramma Rid	lae 14-24-34		Field Name Red Hills North		Busi	Business Unit Mid-Continent		
			Current RKB Elev	/ation			Mid-Continent Mud Line Elevation (ft) Wat				ater Depth (ft)
	3,508.00	3,533.00	3,533.00, 6/4	1/2014			<u> </u>	I			
Τ	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)	Len (ft)	P Burst (psi)	P Collap (psi)
	Casing Joint	5 1/2	4.892	17.00	P-110		15,543	15,624	81.70	<u> </u>	7,48
F	Float Shoe	5 1/2	4.778	17.00	P-110		15,624	15,626	1.54		8,83
			•								
							1				
											•
			×								

.



Cement Summary

Surface Casing Cement

Well Name		1.0000			Field Name						
GRAMMA RIDGE 14-24-3	Lease Gramma Rido	ge 14-24-34	Red Hills North				Business Unit Mid-Continent				
		Current RKB Eleva			•			Mü	d Line El	levation (ft) Wa	ter Depth (ft)
3,508.00	3,533.00	3,533.00, 6/4/	2014			<u>-</u>					
Driginal Hole		···									
Vellbore Name		Directional Type			Kick Off Dep	th (ftKB)			ical Sec	tion Direction (°)	
Driginal Hole Hole	Size (in)	Horizontal		Act To	p (ftKB)			10,646	A	Act Btm (ftKB)	175
		17 1/2					25.0				1,202
		12 1/4				1,2	202.0				5,370
		8 3/4				5,3	370.0	-			15,642
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í ype					instali Date						
Des	Ma	ke	Mo	del		WP (psi)		Service			SN
											······································
Surface, Planned?-N, 1,1											
Casing Description	Wellbore Original Hole		Run Date 6/15/	2014	Set Depth (N		1,195 Stick	Up (ftKB)		Set Tension	(kips)
Centralizers	Oliginar fole	l	0/13/	2014	Scratchers		1,195			20.0	
10											
Jts item De	5	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	ļ	Top Depth (MD) (ftKB)	Btm Depth (ME (ftKB)
1 Wellhead	········	13 3/8	12.715	48.00			ST&C		3.00	20	
1 Pup Joint		13 3/8	12.715	48.00			ST&C		1.00	28	
26 Casing Joint		13 3/8	12.715	48.00	H-40		ST&C	1,12	_	32	1,1
1 Float Collar		13 3/8	12.715	-			ST&C		1.40	1,155	1,1
1 Casing Joint		13 3/8	12.715	48.00	H-40		ST&C		6.60	1,156	
1 Float Shoe		13 3/8	12.715				ST&C		2,10	1,193	1,1
ntermediate Casing 1, P Casing Description	lanned?-N, 5,3 Wellbore		Run Date		Sat Daath (Déale			Cat Tangian	((
Intermediate Casing 1	Original Hole			2014	Set Depth (N		5,363	Up (ftKB)	-:	Set Tension	(KIPS)
Centralizers					Scratchers		· ·			······	
38		1			<u> </u>	Top Conn Sz	·····	T		Top Depth (MD)	Btm Depth (MI
Jts Item De		OD (in)	ID (in)	Wt (lb/ft)	Grade	(in)	Top Thread	Len (ft)		(ftKB)	(ftKB)
1 Casing Hanger + Pu	p	9 5/8	8.844		HCK-55		LT&C		5.00	24	
138 Casing Joint		9 5/8	8.844	40.00	HCK-55		LT&C	5,25		29	· · · · ·
1 Float Collar		9 5/8 9 5/8	8.844	40.00	HCK-55		LT&C LT&C		1.45	5,289 5,290	5,2
2 Casing Joint 1 Float Shoe		9 5/8	8.844	40.00	HCK-55		LT&C		1.62	5,290	5,3 5,3
Production Casing, Plan	nod2 N 15 620		0.044				LIAC	l	1.02	5,501	5,3
Casing Description	Wellbore		Run Date	· · · -	Set Depth (MD) (ftKB)	Stick	Up (ftKB)		Set Tension	(kips)
Production Casing	Original Hole		7/14/	2014		1	5,626		15,6	05.5	
Centralizers Tesco & Bow Spring					Scratchers						
						Top Conn Sz				Top Depth (MD)	Btm Depth (MI
Jts Item De 0 Casing Pup Joint	s	OD (in) 5 1/2	ID (in) 4.892	Wt (lb/ft) 17 00	Grade P-110	(in)	Top Thread	Len (ft)	0.00	(ftKB) -15,605	(ftKB) -15,6
o jouonig i up oonn										10,000	
			4.892	17.00	P-110				25	-15.605	-15 h
1 Casing Hanger		5 1/2	4.892 4.892		P-110 P-110				0.25 7.78	-15,605 -15,605	
1 Casing Hanger 1 Casing Joint		5 1/2	1	17.00				2		,	-15,5
1 Casing Hanger		5 1/2 5 1/2	4.892	17.00 17.00	P-110			2	7.78	-15,605	-15,5 -15,5
1 Casing Hanger 1 Casing Joint 1 Casing Pup Joint 1 Casing Hanger		5 1/2 5 1/2 5 1/2 5 1/2	4.892 4.892	17.00 17.00 17.00	P-110 P-110			2	7.78 4.57 0.25	-15,605 -15,577	-15,5 -15,5 -15,5
1 Casing Hanger 1 Casing Joint 1 Casing Pup Joint 1 Casing Hanger		5 1/2 5 1/2 5 1/2 5 1/2 5 1/2	4.892 4.892 4.892	17.00 17.00 17.00 17.00	P-110 P-110 P-110			10,57	7.78 4.57 0.25	-15,605 -15,577 -15,573	-15,5 -15,5 -15,5 -15,5 -4,9
1 Casing Hanger 1 Casing Joint 1 Casing Pup Joint 1 Casing Hanger 261 Casing Joint		5 1/2 5 1/2 5 1/2 5 1/2 5 1/2 5 1/2	4.892 4.892 4.892 4.892	17.00 17.00 17.00 17.00 17.00	P-110 P-110 P-110 P-110			10,57	7.78 4.57 0.25 3.85	-15,605 -15,577 -15,573 -15,573	-15,5 -15,5 -15,5 -15,5 -4,9 -4,9
1 Casing Hanger 1 Casing Joint 1 Casing Pup Joint 1 Casing Hanger 261 Casing Joint 1 Casing Pup Joint 1 Casing Pup Joint 261 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint		5 1/2 5 1/2 5 1/2 5 1/2 5 1/2 5 1/2 5 1/2	4.892 4.892 4.892 4.892 4.892 4.892	17.00 17.00 17.00 17.00 17.00 17.00	P-110 P-110 P-110 P-110 P-110			10,57	7.78 4.57 0.25 3.85 4.57 9.19	-15,605 -15,577 -15,573 -15,573 -4,994	-15,5 -15,5 -15,5 -4,9 -4,9 -4,9 -4,9
1 Casing Hanger 1 Casing Joint 1 Casing Pup Joint 1 Casing Hanger 261 Casing Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 261 Casing Pup Joint 262 Casing Pup Joint 263 Casing Joint		5 1/2 5 1/2 5 1/2 5 1/2 5 1/2 5 1/2 5 1/2 5 1/2	4.892 4.892 4.892 4.892 4.892 4.892 4.892	17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00	P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110			10,57	7.78 4.57 0.25 3.85 4.57 9.19 3.85	-15,605 -15,577 -15,573 -15,573 -15,573 -4,994 -4,989 -167 -4,980	-15,5 -15,5 -15,5 -4,9 -4,9 -4,9 -4,9 10,4 -1
1 Casing Hanger 1 Casing Joint 1 Casing Pup Joint 1 Casing Hanger 261 Casing Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 261 Casing Pup Joint 262 Casing Pup Joint 263 Casing Joint		5 1/2 5 1/2	4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892	17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00	P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110			10,57 10,57 4,81	7.78 4.57 0.25 3.85 4.57 9.19 3.85 3.32 9.19	-15,605 -15,577 -15,573 -15,573 -15,573 -4,994 -4,989 -167 -4,980 10,423	-15,5 -15,5 -15,5 -4,5 -4,5 -4,5 -4,5 -4,5 -4,5 -10,4
1 Casing Hanger 1 Casing Joint 1 Casing Pup Joint 1 Casing Hanger 261 Casing Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 261 Casing Pup Joint 1 Casing Pup Joint 261 Casing Joint 119 Casing Joint		5 1/2 5 1/2	4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892	17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00	P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110			10,57 10,57 4,81	7.78 4.57 0.25 3.85 4.57 9.19 3.85 3.32 9.19 1.16	-15,605 -15,577 -15,573 -15,573 -4,994 -4,989 -167 -4,980 10,423 10,412	-15,5 -15,5 -15,5 -4,5 -4,5 -4,5 -4,5 -4,5 -4,5 -10,4 10,4 10,4
1 Casing Hanger 1 Casing Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 261 Casing Joint 119 Casing Pup Joint 1 Casing Pup Joint		5 1/2 5 1/2	4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892	17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00	P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110			22 10,57 10,57 4,81 1 4,81	7.78 4.57 0.25 3.85 4.57 9.19 3.85 3.32 9.19 1.16 3.32	-15,605 -15,577 -15,573 -15,573 -4,994 -4,989 -167 -4,980 10,423 10,412 10,438	-15,5 -15,5 -15,5 -4,5 -4,5 -4,5 -4,5 -4,5 -4,5 -4,5 -
1 Casing Hanger 1 Casing Joint 1 Casing Pup Joint 1 Casing Hanger 261 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 261 Casing Pup Joint 261 Casing Joint 19 Casing Pup Joint 1 Casing Pup Joint		$\begin{array}{c} 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \\ 5 \ 1/2 \end{array}$	4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.778 4.892 4.778	17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00	P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110			2 10,57 10,57 4,81 1 4,81	7.78 4.57 0.25 3.85 4.57 9.19 3.85 3.32 9.19 1.16 3.32 5.49	-15,605 -15,577 -15,573 -15,573 -4,994 -4,989 -167 -4,980 10,423 10,412 10,438 10,433	-15,5 -15,5 -15,5 -4,5 -4,5 -4,5 -4,5 -4,5 -4,5 -10,4 10,4 10,4 15,2 10,4
1 Casing Hanger 1 Casing Joint 1 Casing Pup Joint 1 Casing Hanger 261 Casing Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 261 Casing Joint 119 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 119 Casing Joint 119 Casing Pup Joint 110 Casing Pup Joint 111 Casing Pup Joint 111 Casing Pup Joint 111 Casing Pup Joint 11 Casing Pup Joint		$\begin{array}{c c} 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ \end{array}$	4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.778 4.892 4.778 4.778	17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00	P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110			2 10,57 10,57 4,81 1 4,81	7.78 4.57 0.25 3.85 4.57 9.19 3.85 3.32 9.19 1.16 3.32 5.49 1.16	-15,605 -15,577 -15,573 -15,573 -4,994 -4,989 -167 -4,980 10,423 10,412 10,438 10,433 15,292	-15,5 -15,5 -15,5 -4,9 -4,9 -4,9 -4,9 10,4 10,4 10,4 10,4 10,2 10,2 10,2 10,2
1 Casing Hanger 1 Casing Joint 1 Casing Pup Joint 1 Casing Hanger 261 Casing Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 261 Casing Joint 119 Casing Pup Joint 1 Toe Sleeve (RSCI) 1 Casing Joint 1 Casing Joint		$\begin{array}{c c} 5 & 1/2 \\ \end{array}$	4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.778 4.892 4.778 4.778 4.892	17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00	P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110			2 10,57 10,57 4,81 1 4,81 1 4,81	7.78 4.57 0.25 3.85 4.57 9.19 3.85 3.32 9.19 1.16 3.32 5.49 1.16 0.93	-15,605 -15,577 -15,573 -15,573 -4,994 -4,989 -167 -4,980 10,423 10,412 10,438 10,438 10,433 15,292 15,251	-15,5 -15,5 -15,5 -4,5 -4,5 -4,5 -4,5 -4,5 10,4 10,4 10,4 10,4 10,4 10,4 10,5,2 15,2 15,2
1 Casing Hanger 1 Casing Joint 1 Casing Pup Joint 1 Casing Hanger 261 Casing Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 261 Casing Joint 119 Casing Pup Joint 1 Casing Pup Joint 1 Casing Pup Joint 119 Casing Joint 119 Casing Pup Joint 119 Casing Pup Joint 110 Casing Pup Joint 111 Casing Pup Joint 111 Casing Pup Joint 11 Casing Pup Joint		$\begin{array}{c c} 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ 5 & 1/2 \\ \end{array}$	4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.892 4.778 4.892 4.778 4.892 4.778 4.892 4.778	17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00 17.00	P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110 P-110			10,57 10,57 4,81 1 4,81 1 4,81	7.78 4.57 0.25 3.85 4.57 9.19 3.85 3.32 9.19 1.16 3.32 5.49 1.16	-15,605 -15,577 -15,573 -15,573 -4,994 -4,989 -167 -4,980 10,423 10,412 10,438 10,433 15,292	-15,5 -15,5 -15,5 -4,9 -4,9 -4,9 -4,9 10,4 10,4 10,4 15,2 10,4 15,2 15,2 5 15,3



Cement Summary

Surface Casing Cement

	Lease Gramma R	idge 14-24-3	4	Field Name Red Hills	North		Business Mid-Ce	s Unit Ontinent	
RAMMA RIDGE 14-24-34 002H Fround Elevation (ft) Original RKB (ft)	Current RKB EI			Treating	Norun			Elevation (ft)	Water Depth (ft)
3,508.00 3,	533.00 3,533.00, 6	/4/2014				·			
					Top Co		<u> </u>	Top Depth (N	ID) Btm Depth
JtsItem Des 1 Casing Joint	OD (in)	ID (in)	Wt (lb/ft)	Grade	(in) Top Thread		(ftKB)	(ftKB)
	51			P-110	<u></u>		40.93		322 1
1 Landing Collar	5 1			P-110			1.42	1	320 1
1 Casing Pup Joint	5 1/			P-110	<u> </u>		11.21		362 1
1 Casing Joint	5 1,			P-110			40.88	· · · · · · · · · · · · · · · · · · ·	
1 Landing Collar	5 1			P-110			1.42	15,-	416 1
1 Float Collar	5 1	/2 4.7		P-110	T		1.33	15,	415 1
1 Casing Joint	5 1	/2 4.89	17.00	P-110			40.88	15,4	499 1
2 Casing Joint	5 1	/2 4.89	92 17.00	P-110			81.70	15,	417 1
1 Float Collar	5 1	/2 4.7	78 17.00	P-110			1.33	15,	541 1
1 Float Shoe	5 1/	/2 4.7	78 17.00	P-110	<u> </u>		1.54	15,	540 1
2 Casing Joint	5 1	/2 4.89	17.00	P-110			81.70		543 1
1 Float Shoe	5 1			P-110			1.54	.l	624 1
urface Casing Cement, Casing				<u> </u>	<u> </u>		1.04	10,	
menting Start Date	3, 0/10/2014 12.30	Cementing Er	d Date			Wei	bore		
6/15/2014				5/2014			ginal Hole		
valuation Method	Cement Evalua								
eturns to Surface	318 bbis (1	038 sxs) of c	mt to surface						
omment									
, 25.0-1,195.0ftKB	·								· · · · · · · · · · · · · · · · · · ·
	Bottom Depth (ftKB)		Full Return?	Vol Cement	Ret (bbl)	Top Plug?		Bottom Plug?	······································
25.0		1,195.0	N		318.0		N		Y
itial Pump Rate (bbl/min)	Final Pump Rate (bbl/min)		Avg Pump Rate (bb)	l/min)		Final Pump Pressu		Plug Bump Pre	ssure (psi)
pe Reciprocated?	Reciprocation Stroke Leng	Z	Reciprocation Rate	(spm)	3	Pipe Rotated?		Pipe RPM (rpm	\
N	Recipiocation Stroke Leng	lui (it)	Recipiocation Rate	(spin)		Pipe Rolated?	N	Pipe RPM (Ipin)
epth Tagged (MD) (ftKB)	Tag Method		Depth Plug Drilled C	Out To (ftKB)		Drill Out Diameter (Drill Out Date	
Spacer									
	Fluid Description		Quantity (sacks)			Class		Volume Pumpe	d (bbl)
	Fresh Water Estimated Bottom Depth (f	1KB)	Percent Excess Pur	aped (%)		Yield (ft³/sack)		Fluid Mix Ratio	(apl/sack)
	zaunated bettern beput (i	((0))		npea (m)					(ganador)
ree Water (%)	Density (lb/gal)		Zero Gel Time (min)			Thickening Time (h	r)	1st Compressiv	e Strength (psi)
		8.40						1	
Cement Fluid Additives									· · · · · · · · · · · · · · · · · · ·
Add				Гуре				Conc	
			•						
ead	Eluid Description		Quantity (cooks)	·		Class		Volume Pumpe	d (bb)
	Fluid Description Halcem Class C		Quantity (sacks)		1,160	Class C		Volume Pumpe	(IDDI)
	Estimated Bottom Depth (f	tKB)	Percent Excess Pur	nped (%)		Yield (ft³/sack)		Fluid Mix Ratio	(gal/sack)
24.5		900.0			250.0		1.75		
ree Water (%)	Density (lb/gal)	40.50	Zero Gel Time (min)			Thickening Time (h	r)	1st Compressiv	e Strength (psi)
Cement Fluid Additives		13.50						J	
Add				Гуре				Conc	······································
		I	······						
						Class		Volume Pumpe	d (bbl)
[ail	Fluid Description		Quantity (sacks)						()
Tail Nuid Type Tail	Fluid Description Halcem Class C		Quantity (sacks)		570	С			
ail luid Type ail stimated Top (ftKB)		,	Percent Excess Pur	nped (%)		C Yield (ft³/sack)		Fluid Mix Ratio	(gal/sack)
ail huid Type ail stimated Top (ftKB) 925.0	Halcem Class C Estimated Bottom Depth (f	tкв) 1,202.0	Percent Excess Pur	,	570 250.0	C Yield (ft³/sack)	1.36	6	· ,
ail Nid Type ail stimated Top (ftKB) 925.0	Halcem Class C	1,202.0	Percent Excess Pur Zero Gel Time (min)	,		C Yield (ft³/sack)		6	(gal/sack) ve Strength (psi)
ail uid Type ail stimated Top (ftKB) 925.0 ree Water (%)	Halcem Class C Estimated Bottom Depth (f	,	Percent Excess Pur Zero Gel Time (min)	,		C Yield (ft³/sack)		6	· ,
ail uid Type ail stimated Top (ftKB) 925.0 ee Water (%)	Halcem Class C Estimated Bottom Depth (f	1,202.0	Percent Excess Pur Zero Gel Time (min)			C Yield (ft³/sack)		6	· ,
ail uid Type ail stimated Top (ftKB) 925.0 ree Water (%) cement Fluid Additives	Halcem Class C Estimated Bottom Depth (f	1,202.0	Percent Excess Pur Zero Gel Time (min)	,		C Yield (ft³/sack)		3 1st Compressiv	· ,
rail uid Type ail stimated Top (ftKB) 925.0 ree Water (%) Cement Fluid Additives Add	Halcem Class C Estimated Bottom Depth (f	1,202.0	Percent Excess Pur Zero Gel Time (min)			C Yield (ft³/sack)		3 1st Compressiv	· ,
ail Iuid Type ail stimated Top (ftKB) 925.0 ree Water (%) Cement Fluid Additives Add Displacement	Halcem Class C Estimated Bottom Depth (f Density (lb/gal)	1,202.0	Percent Excess Pur Zero Gel Time (min)			C Yield (ft³/sack)		3 1st Compressiv	ve Strength (psi)
ail luid Type ail stimated Top (ftKB) 925.0 ree Water (%) Cement Fluid Additives Add Displacement luid Type	Halcem Class C Estimated Bottom Depth (f	1,202.0	Percent Excess Pur Zero Gel Time (min)			C Yield (ft ³ /sack) Thickening Time (h		3 1st Compressiv Conc	ve Strength (psi)
Tail Luid Type Tail stimated Top (ftKB) 925.0 ree Water (%) Cement Fluid Additives Add Displacement Luid Type Displacement Stimated Top (ftKB)	Halcem Class C Estimated Bottom Depth (f Density (lb/gal) Fluid Description	1,202.0 14.80	Percent Excess Pur Zero Gel Time (min) Quantity (sacks) Percent Excess Pur	Гуре		C Yield (ft ³ /sack) Thickening Time (h		3 1st Compressiv Conc	re Strength (psi)
rail Luid Type ail stimated Top (ftKB) 925.0 ree Water (%) Cement Fluid Additives Add Displacement Luid Type Displacement Istimated Top (ftKB) 24.5	Halcem Class C Estimated Bottom Depth (f Density (lb/gal) Fluid Description Brine Estimated Bottom Depth (f	1,202.0	Percent Excess Pur Zero Gel Time (min) Quantity (sacks) Percent Excess Pur	Type		C Yield (ft³/sack) Thickening Time (h Class Yield (ft³/sack)	r)	Conc Volume Pumpe	re Strength (psi)
rail Luid Type ail stimated Top (ftKB) 925.0 ree Water (%) Cement Fluid Additives Add Displacement Luid Type Displacement stimated Top (ftKB) 24.5	Halcem Class C Estimated Bottom Depth (f Density (lb/gal) Fluid Description Brine	1,202.0 14.80	Percent Excess Pur Zero Gel Time (min) Quantity (sacks) Percent Excess Pur Zero Gel Time (min)	Type		C Yield (ft³/sack) Thickening Time (h	r)	Conc Volume Pumpe	re Strength (psi)

Chevron	Cement Summary							
Well Name GRAMMA RIDGE 14-24-34 002H Ground Elevation (ft) Original RKB (ft)	Lease Gramma Ridge 14-24-34 Current RKB Elevation	Red Hills North	Surface Casing Business Unit Mid-Continent Mud Line Elevation (ft) Water Dept					
3,508.00 3,533.00 Cement Fluid Additives Add	3,533.00, 6/4/2014	Туре	Conc					
			_	l				
		,						
L	F	Page 3/3	Report Printed:	12/17/2014				