

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

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
Revised July 18, 2013

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

WELL API NO.

30-025-41345

5. Indicate Type of Lease

STATE ☒ FEE ☐

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS

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

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

HOBBS OCD

2. Name of Operator  
CHEVRON U.S.A. INC.

DEC 23 2013

3. Address of Operator  
15 SMITH ROAD, MIDLAND, TEXAS 79705

7. Lease Name or Unit Agreement Name

CENTRAL VACUUM UNIT

8. Well Number 218

9. OGRID Number 4323

10. Pool name or Wildcat  
VACUUM; GRAYBURG SAN ANDRES

4. Well Location

RECEIVED

Unit Letter: M 942 feet from SOUTH line and 1015 feet from the WEST line

Section 6 Township 18S Range 35E NMPM County LEA

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
3983' GL

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐  
DOWNHOLE COMMINGLE ☐  
CLOSED-LOOP SYSTEM ☐  
OTHER:

SUBSEQUENT REPORT OF:

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

OTHER: DRILL NEW WELL

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

10/24/13: SPUD WELL @ 1930 HRS.

10/25/13: DRILL 778-501,1040,1523.

10/26/13: RAN 11.75" 42# H-40 STC SURF CSG - SET @ 1523. CMT W/1035 SX CMT. 147 BBLS CMT TO SURF.

10/28/13: DRILL 1525-2171, 2435, 2662, 3213.

10/30/13: RAN 8 5/8" 32# J-55 LTC CSG - SET @ 3203. CMT W/595 SX CMT. 49 BBLS CMT TO SURF.

DRILL 3213-3345, 4153, 4242, 4470, 5120. (TD 11-01-13)

11/02/13: RAN 5 1/2" 17# J-55 PROD CSG - SET @ 5107'. CMT W/1150 SX CMT.

RELEASE RIG.

Spud Date:

Rig Release Date:

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

SIGNATURE

*Denise Pinkerton*

TITLE REGULATORY SPECIALIST

DATE 12/17/2013

Type or print name DENISE PINKERTON  
For State Use Only

E-mail address: [leakejd@chevron.com](mailto:leakejd@chevron.com)

PHONE: 432-687-7375

APPROVED BY:

*[Signature]*

TITLE

Petroleum Engineer

DATE

06/27/14

Conditions of Approval (if any):

JUN 30 2014



# Summary Report

**Drill**  
**Drill and Suspend**  
**Job Start Date: 10/22/2013**  
**Job End Date: 11/3/2013**

Well Name CENTRAL VACUUM UNIT 218		Lease Central Vacuum Unit	Field Name Vacuum	Business Unit Mid-Continent	
Ground Elevation (ft) 3,983.00	Original RKB (ft) 4,001.50	Current RKB Elevation 4,001.50, 9/18/2013		Mud Line Elevation (ft) 0.00	Water Depth (ft) 0.00

**Report Start Date: 10/22/2013**

Com

Rig released from CVU 211 at 1200 hrs.  
R/D H&P 356 on CVU 211 and prepare for move to CVU 218  
Location pad ready, frac tanks spotted.  
16" conductor pipe set @ 120'.

**Report Start Date: 10/23/2013**

Com

R/D H&P 356 on CVU 211  
Hold PJSM with H&P, H&P Rig Movers. Review rig move check list. Move H&P 356 from CVU 211 to CVU 218. All loads on location at 17:00 hrs.  
Spot loads and continue R/U and prep to spud. Perform pre-spud rig inspection and address all issues.  
Notified OCD at 2115 hrs on 10/23/13 of intent to spud.

**Report Start Date: 10/24/2013**

Com

R/U H&P 356 on CVU 218  
Weld on conductor pipe, install turn buckles, center conductor pipe, R/U flowline, fill line, and kill line.  
Perform pre-spud rig inspection and address all issues.  
L/O and strap surface BHA.

Pick Up BHA#1 as follows:  
14 3/4" PDC bit (Halliburton)  
8" Baker Motor (0.22 rev/gal)  
3 - 8" Spiral Drill Collars  
10 - 6 1/2" Spiral Drill Collars  
10 - 4 1/2" HW Drill Pipe

*Spud*

TIH and tag at 77'  
\*\*Spud Well @ 1930\*\*

Drlg f/ 77' to 501'  
AROP = 94 fph  
WOB = 5 - 7 kips  
TD RPM = 70  
Motor RPM = 121  
GPM = 650  
SPP = 1000psi  
MW = 8.34 ppg  
pH = 9

**Report Start Date: 10/25/2013**

Com

Drlg f/ 510' to 1040'  
AROP = 118 fph  
WOB = 10 - 12 klbs  
TD RPM = 135  
Motor RPM = 143  
GPM = 650  
SPP = 1800 psi  
MW = 8.8 ppg  
pH = 8.5

Note:  
Encountered drop in ROP at 1040'

Drlg f/ 1040' to 1523'  
AROP = 29 fph  
WOB = 5 - 12 kips  
TD RPM = 70  
Motor RPM = 143  
GPM = 650  
SPP = 1350 psi  
MW = 9.3 ppg  
pH = 10

Note:  
Correcting inclination problems f/ 1040' - 1220'



# Summary Report

Drill  
Drill and Suspend  
Job Start Date: 10/22/2013  
Job End Date: 11/3/2013

Well Name CENTRAL VACUUM UNIT 218		Lease Central Vacuum Unit	Field Name Vacuum	Business Unit Mid-Continent	
Ground Elevation (ft) 3,983.00	Original RKB (ft) 4,001.50	Current RKB Elevation 4,001.50, 9/18/2013		Mud Line Elevation (ft) 0.00	Water Depth (ft) 0.00

Com

Pump 2 40 bbl high visc sweeps @ TD, circulate 2 B/U. Flow check well – Static  
MW= 9.3 ppg  
Visc= 35  
PH= 8.5  
WL= 10

TOH f/1523' to 940'.

Note:  
Inclination Survey 2.1 deg @ 1523.

Report Start Date: 10/26/2013

Com

TOH f/ 940' to surface  
L/D BHA, motor and bit.  
Clean rig floor.

Rig Service

PJSM w/ Frank's Casing. R/U H&P CRT and casing running equipment. Elevators callipered by toolpusher and driller

Run 11" 42# H40 STC csg as follows:

1 Texas Pattern Float Shoe  
1 Shoe Jts  
1 Float Collar  
38 Joints

*Surf csg*

Centralizer place 10' above FS, 10' above FC and one per 4 jts to surface.

Tag bottom at 1523'

Casing shoe landed at 1523'

Top of FC at 1481'

Notified Patricia of OCD @ 1900 hrs on 10/25/13 of intent to run and cmt csg.

Details:  
Washed csg f/ 1442' – 1523'

Circulate 1.5 times casing volume.

PJSM with Halliburton and R/U cementing equipment.

Perform cmt job as follows:

Pressure test lines to 1500 psi

Pump 20 bbls of spacer at 8.34 ppg.

Mix and pump 610 sxs (210 bbls) of type of cement lead at 12.9 ppg.

Mix and pump 425 sxs (102 bbls) of type of cement tail at 14.8 ppg.

Drop plug and displace cmt w/ 177 bbls of 8.34 ppg fluid.

Bump plug with 500 psi over final circulating pressure.

Bleed off pressure – floats held.

*Cmt*

Details:

Full returns throughout job

Final circulation pressure prior to bumping plug 740 psi at 2 bpm

147 bbls of cmt or spacer to surface

Cmt in place at 2130 hrs

R/D Halliburton cementers

Wait on cement

Report Start Date: 10/27/2013

Com

Wait on cement as per drilling procedure.

PJSM w/ Cotton's Welding and Man Welding. Rough cut 11 3/4" csg. L/D CRT & equipment. N/D conductor. Dress and make final cut on 11 3/4" casing.

PJSM with Cotton Welding, Install and weld 11 3/4" SOW x 11" 5M multibowl wellhead. Test void to 850 psi - test good.

PJSM and N/U 11"x5M BOP, flow, kill, and choke lines, turn buckles, accumulator lines

PJSM w/ Mann Welding and Test BOPE to 250 psi low / 3000 psi high (3000 high on annular) . Details documented in MCBU BOP Testing Sheet and stored in WellView attachments. Test accumulator for usable fluid, pre-charge and capacity.

IBOP and Pipe ram tests failed.

C/O pipe ram rubber, bonet door seals and IBOP

Retest failed BOP items

Report Start Date: 10/28/2013



# Summary Report

Drill  
Drill and Suspend  
Job Start Date: 10/22/2013  
Job End Date: 11/3/2013

Well Name CENTRAL VACUUM UNIT 218		Lease Central Vacuum Unit	Field Name Vacuum	Business Unit Mid-Continent	
Ground Elevation (ft) 3,983.00	Original RKB (ft) 4,001.50	Current RKB Elevation 4,001.50, 9/18/2013		Mud Line Elevation (ft) 0.00	Water Depth (ft) 0.00

Com

Retested Pipe rams and IBOP. Test good.  
11 3/4" casing test 30 min @ 1500 psi Test good.

Pick Up BHA#2 as follows:  
10 5/8" PDC bit (Halliburton, MM65DM)  
8" Motor (0.22 rev/gal)

TIH and tag cement/float collar at 1,475'.

Circ hole with 10 ppg brine and perform choke drill.

Drl FE & Cmt to 1525'.

Drlg fl 1,525' to 2,171  
AROP = 92 fph  
WOB = 10 - 20 kips  
TD RPM = 125 rpm  
Motor RPM = 143 rpm  
GPM = 650 ppg  
SPP = 2200 psi  
MW = 10 ppg  
pH = 8.5

Rig Service.

Drlg fl 2,171' to 2435'  
AROP = 132 fph  
WOB = 15 - 20 kips  
TD RPM = 120  
Motor RPM = 143  
GPM = 650  
SPP = 2400 psi  
MW = 10 ppg  
pH = 8.5

C/O packing on #1 Mud Pump

Rig Service

Drlg fl 2435' - 2662'  
AROP = 114 fph  
WOB = 15 - 20 kips  
TD RPM = 120  
Motor RPM = 143  
GPM = 650  
SPP = 2400 psi  
MW = 10 ppg  
pH = 8.5

Report Start Date: 10/29/2013

Com

Drlg fl 2662' - 3213' - 551'  
AROP = 69 fph  
WOB = 15 - 20 klbs  
TD RPM = 120  
Motor RPM = 143  
GPM = 650  
SPP = 2400 psi  
MW = 10 ppg  
pH = 8.5

Pump 2 40 bbl sweeps & circulate hole clean. (Small amount of gas bubbling in annulus prior to circulating)

Check well for flow. (Well Static)

POOH, pull rot head & install trip nipple. Trip to surface, break bit & L/D Same

Clean rig floor

PJSM on rigging up H&P CRT tool.

R/U H&P CRT tool.

Review JSA, R/U CRT & casing equipment, calibrate drawworks. Review JSA for running 8 3/4" csg.

Run 8 5/8" 32# J-55 LTC Intermediate Casing T/ 1755'

Report Start Date: 10/30/2013

Com

Continue running 8 5/8" 32# J-55 LTC Intermediate casing, Tagged @ 3213'

Circulate 1 1/2 casing volume

8 5/8" Inter csg



# Summary Report

Drill  
Drill and Suspend  
Job Start Date: 10/22/2013  
Job End Date: 11/3/2013

Well Name CENTRAL VACUUM UNIT 218	Lease Central Vacuum Unit	Field Name Vacuum	Business Unit Mid-Continent
Ground Elevation (ft) 3,983.00	Original RKB (ft) 4,001.50	Current RKB Elevation 4,001.50, 9/18/2013	Mud Line Elevation (ft) 0.00
			Water Depth (ft) 0.00

3 Com

L/D tag joint and P/U hanger. Land hanger, intermediate casing shoe @ 3202'

Continue to circulate while having safety meeting w/ halliburton cementers, Chevron & H&P 356 crew on R/U and pumping cement schedule.

R/U Halliburton cementers.

Perform cmt job as follows:  
Pressure test lines to 1500 psi  
Pump 10 bbls of spacer at 8.34 ppg, followed by 24 bbls of superflush 101 at 10 ppg, then 10 bbl spacer #2 at 8.34 ppg.  
Mix and pump 405 sxs (131.28 bbls) of type of cement lead at 12.9 ppg.  
Mix and pump 190 sxs (45.68 bbls) of type of cement tail at 14.8 ppg.  
Drop plug and displace cmt w/ 190.33 bbls of 10 ppg fluid.  
Bump plug with 500 psi over final circulating pressure.  
Bleed off pressure – floats held.

Details:  
Full returns throughout job  
Final circulation pressure prior to bumping plug 710 psi at 2 bpm  
40 bbls of cmt or spacer to surface  
Cmt in place at 0630 hrs

Rig down Halliburton cement equip.

Flush lines

Review JSA, R/D H&P CRT tool.

Review JSA and set Packoff, test to 2000 psi.

Review JSA and install Wear Bushing.

Review JSA and p/u BHA . P/U & Make up 7 7/8" production hole BHA, TIH to 2385

Perform trip drill

Continue TIH to 2897'

Pull trip nipple and install rot head. Fill and test casing to 1500 psi.

Choke Drill

TIH, tagged cmt @ 3118'

Drill out cement and float equip and shoe.

Drig (132') - f/ 3213' - 3345'  
AROP = 52.8 fph  
WOB = 8 klbs  
TD RPM = 25  
Motor RPM = 42  
GPM = 300  
SPP = 700 psi  
MW = 9.9 ppg  
pH = 8.5

Report Start Date: 10/31/2013

Com

Drill 7 7/8" production hole section from 3345' to 4153'  
AROP = 63 FPH  
WOB = 10-17 Klbs  
RPM = 85  
Motor RPM = 104  
GPM = 650  
SPP = 2700 psi  
Torque = 5-6Kft\*lbs  
Differential = 250 psi

Displace 9.9 ppg clear brine with 10.8 ppg barazan mud

Drill 7 7/8" production hole section from 4153' to 4242'  
AROP = 32 FPH  
WOB = 10-12 Klbs  
RPM = 85  
Motor RPM = 99  
GPM = 620  
SPP = 2700 psi  
Torque = 5-6Kft\*lbs  
Differential = 250 psi

Rig Service, Grease Top Drive



# Summary Report

**Drill**  
**Drill and Suspend**  
**Job Start Date: 10/22/2013**  
**Job End Date: 11/3/2013**

Well Name CENTRAL VACUUM UNIT 218		Lease Central Vacuum Unit	Field Name Vacuum	Business Unit Mid-Continent	
Ground Elevation (ft) 3,983.00	Original RKB (ft) 4,001.50	Current RKB Elevation 4,001.50, 9/18/2013		Mud Line Elevation (ft) 0.00	Water Depth (ft) 0.00

Com

Drill 7 7/8" production hole section from 4242' to 4470'

AROP = xx FPH

WOB = 10-12 Klbs

RPM = 85

Motor RPM = 99

GPM = 620

SPP = 2700 psi

Torque = 5-6Kft\*lbs

Differential = 250 psi

Review Personnel hoisting JSA and perform inspection of derrick.

**Report Start Date: 11/1/2013**

Com

Drill 7 7/8" production hole section from 4470' to 5120'

AROP = 62 FPH

WOB = 18-22 Klbs

RPM = 85

Motor RPM = 99

GPM = 620

SPP = 3450 psi

Torque = 3-5Kft\*lbs

Differential = 250 psi

Pump 3 40 bbl High Vis Sweeps & Circulate Hole Clean

Flow Check Well On Trip Tank (Well Static)

Pump Slug, TOH with 7 7/8" production drilling assembly from 5120' to surface, break bit & laydown same. Note: Hole pulled slick & took proper fill

Clean rig floor

Pull Wearbushing

Held PJSM with Chevron & H&P crew on rigging up H&P CRT

R/U CRT & Casing equipment

Diagnose and repair low hyd. pressure on H&P CRT tool. Adjust pressure going through valve bank.

**Report Start Date: 11/2/2013**

Com

Adjust hydraulic pressure at CRT valve bank.

Review JSA and run 5.5" 17# J-55 production csg to 5107'. Washing last 2 jts to bottom.

Lay down tag joint and land Hanger.

PJSM on rig up & pump Halliburton Cement & equipment.

R/U Halliburton Cementers

Pump Halliburton cement schedule

Review JSA & R/D Halliburton Cementers

Back out of landing jt. & Flush lines.

Review JSA & R/D H&P's CRT tool.

Set Backpressure valve and packer. Test packer to 5000 psi.

PJSM with Mann welding nipple down crew.

Nipple down BOP

Install tubing head. Tourque and test to 5,000 psi.

Clean pits, Release rig at 00:00



# Casing Summary

Well Name CENTRAL VACUUM UNIT 218		Lease Central Vacuum Unit		Field Name Vacuum		Business Unit Mid-Continent	
Ground Elevation (ft) 3,983.00	Original RKB (ft) 4,001.50	Current RKB Elevation 4,001.50, 9/18/2013				Mud Line Elevation (ft) 0.00	Water Depth (ft) 0.00

## Conductor, Planned?-N, 80ftKB

Set Depth (MD) (ftKB) 80		Set Tension (kips)		String Nominal OD (in) 16		String Min Drift (in) 14.500		Centralizers		Scratchers	
Jts	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)
2	Casing Joint	16	14.687	109.00	J-55		0	80	80.00	3,950.0	2,560.0

## Surface, Planned?-N, 1,523ftKB

Set Depth (MD) (ftKB) 1,523		Set Tension (kips)		String Nominal OD (in) 11 3/4		String Min Drift (in)		Centralizers 11		Scratchers	
Jts	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)
38	Casing Joint	11 3/4	11.084	42.00	H-40		-7	1,479	1,486.14		1,070.0
1	Float Collar	11 3/4	11.084	42.00	H-40		1,479	1,480	1.39		1,070.0
1	Casing Joint	11 3/4	11.084	42.00	H-40		1,480	1,521	40.90		1,070.0
1	Float Shoe	11 3/4	11.084	42.00	H-40		1,521	1,523	1.73		1,070.0

## Intermediate Casing 1, Planned?-N, 3,203ftKB

Set Depth (MD) (ftKB) 3,203		Set Tension (kips)		String Nominal OD (in) 8 5/8		String Min Drift (in)		Centralizers 28		Scratchers	
Jts	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	Landing Joint	8 5/8					0	18	18.50		
1	Pup Joint	8 5/8					18	21	3.29		
34	Casing Joint	8 5/8	7.921	32.00	J-55		21	1,410	1,388.60		
1	External Casing Packer	8 5/8	7.921				1,410	1,436	25.87		
42	Casing Joint	8 5/8	7.921	32.00	J-55		1,436	3,117	1,681.41		
1	Float Collar	8 5/8					3,117	3,119	1.48		
2	Casing Joint	8 5/8	7.921	32.00	J-55		3,119	3,201	82.67		
1	Float Shoe	8 5/8					3,201	3,203	1.54		

## Production Casing, Planned?-N, 5,100ftKB

Set Depth (MD) (ftKB) 5,100		Set Tension (kips)		String Nominal OD (in) 5 1/2		String Min Drift (in)		Centralizers 51		Scratchers	
Jts	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	Hanger	5 1/2	4.892	17.00	J-55		-8	11	18.50		
1	Pup Joint	5 1/2	4.892	17.00	J-55		11	15	3.64		
76	Casing Joint	5 1/2	4.892	17.00	J-55		15	3,085	3,070.12		
1	External Casing Packer	5 1/2	4.892	17.00	J-55		3,085	3,109	24.30		
8	Casing Joint	5 1/2	4.892	17.00	J-55		3,109	3,430	320.61		
1	Marker	5 1/2	4.892	17.00	J-55		3,430	3,444	14.65		
39	Casing Joint	5 1/2	4.892	17.00	J-55		3,444	5,018	1,573.66		
1	Float Collar	5 1/2	4.892	17.00	J-55		5,018	5,019	1.10		
2	Casing Joint	5 1/2	4.892	17.00	J-55		5,019	5,099	79.55		
1	Float Shoe	5 1/2	4.892	17.00	J-55		5,099	5,100	1.37		



# Cement Summary

## Production Casing Cement

Well Name CENTRAL VACUUM UNIT 218	Lease Central Vacuum Unit	Field Name Vacuum	Business Unit Mid-Continent
Ground Elevation (ft) 3,983.00	Original RKB (ft) 4,001.50	Current RKB Elevation 4,001.50, 9/18/2013	Mud Line Elevation (ft) 0.00
			Water Depth (ft) 0.00

### Original Hole

Wellbore Name Original Hole	Directional Type Vertical	Kick Off Depth (ftKB)	Vertical Section Direction (°) 0.00
Hole Size (in)	Act Top (ftKB)	Act Btm (ftKB)	
14 3/4	18.5	1,523.0	
10 5/8	1,523.0	3,200.0	
7 7/8	3,200.0	5,120.0	

### MB-260, Vetco Grey on 10/27/2013 05:30

Type MB-260			Install Date 10/27/2013		
Des	Make	Model	WP (psi)	Service	SN
	Vetco Grey				

### Conductor, Planned?-N, 80ftKB

Casing Description Conductor	Wellbore Original Hole	Run Date 10/1/2013	Set Depth (MD) (ftKB) 80	Stick Up (ftKB) 0.0	Set Tension (kips)
Centralizers	Scratchers				

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)
2	Casing Joint	16	14.687	109.00	J-55			80.00	0	80

### Surface, Planned?-N, 1,523ftKB

Casing Description Surface	Wellbore Original Hole	Run Date 10/26/2013	Set Depth (MD) (ftKB) 1,523	Stick Up (ftKB) 7.2	Set Tension (kips)
Centralizers 11	Scratchers				

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)
38	Casing Joint	11 3/4	11.084	42.00	H-40			1,486.14	-7	1,479
1	Float Collar	11 3/4	11.084	42.00	H-40			1.39	1,479	1,480
1	Casing Joint	11 3/4	11.084	42.00	H-40			40.90	1,480	1,521
1	Float Shoe	11 3/4	11.084	42.00	H-40			1.73	1,521	1,523

### Intermediate Casing 1, Planned?-N, 3,203ftKB

Casing Description Intermediate Casing 1	Wellbore Original Hole	Run Date 10/30/2013	Set Depth (MD) (ftKB) 3,203	Stick Up (ftKB) 0.4	Set Tension (kips)
Centralizers 28	Scratchers				

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)
1	Landing Joint	8 5/8						18.50	0	18
1	Pup Joint	8 5/8						3.29	18	21
34	Casing Joint	8 5/8	7.921	32.00	J-55			1,388.60	21	1,410
1	External Casing Packer	8 5/8	7.921					25.87	1,410	1,436
42	Casing Joint	8 5/8	7.921	32.00	J-55			1,681.41	1,436	3,117
1	Float Collar	8 5/8						1.48	3,117	3,119
2	Casing Joint	8 5/8	7.921	32.00	J-55			82.67	3,119	3,201
1	Float Shoe	8 5/8						1.54	3,201	3,203

### Production Casing, Planned?-N, 5,100ftKB

Casing Description Production Casing	Wellbore Original Hole	Run Date 11/2/2013	Set Depth (MD) (ftKB) 5,100	Stick Up (ftKB) 7.5	Set Tension (kips)
Centralizers 51	Scratchers				

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)
1	Hanger	5 1/2	4.892	17.00	J-55			18.50	-8	11
1	Pup Joint	5 1/2	4.892	17.00	J-55			3.64	11	15
76	Casing Joint	5 1/2	4.892	17.00	J-55			3,070.12	15	3,085
1	External Casing Packer	5 1/2	4.892	17.00	J-55			24.30	3,085	3,109
8	Casing Joint	5 1/2	4.892	17.00	J-55			320.61	3,109	3,430
1	Marker	5 1/2	4.892	17.00	J-55			14.65	3,430	3,444
39	Casing Joint	5 1/2	4.892	17.00	J-55			1,573.66	3,444	5,018
1	Float Collar	5 1/2	4.892	17.00	J-55			1.10	5,018	5,019
2	Casing Joint	5 1/2	4.892	17.00	J-55			79.55	5,019	5,099
1	Float Shoe	5 1/2	4.892	17.00	J-55			1.37	5,099	5,100





# Cement Summary

Production Casing Cement

Well Name CENTRAL VACUUM UNIT 218		Lease Central Vacuum Unit	Field Name Vacuum	Business Unit Mid-Continent	
Ground Elevation (ft) 3,983.00	Original RKB (ft) 4,001.50	Current RKB Elevation 4,001.50, 9/18/2013		Mud Line Elevation (ft) 0.00	Water Depth (ft) 0.00

## Production Casing Cement, Casing, 11/2/2013 12:30

Cementing Start Date 11/2/2013	Cementing End Date 11/2/2013	Wellbore Original Hole
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Evaluation Method Returns to Surface	Cement Evaluation Results
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Comment  
Perform cmt job as follows:  
Pressure test lines to 5000 psi  
Pump 30 bbls tuned spacer at 12.3 ppg, followed by  
Mix and pump 420 sxs (125.7 bbls) of type HR601 cement lead at 13.2 ppg.  
Mix and pump 455 sxs (83.5 bbls) of HALDAD R-322 type cement tail at 15.8 ppg.  
Drop plug and displace cmt w/ 116.5 bbls of fresh water.  
Bump plug with 500 psi over final circulating pressure.  
Bleed off pressure – floats held.

Details:  
Full returns throughout job  
Final circulation pressure prior to bumping plug 710 psi at 2 bpm  
40 bbls of cmt or spacer to surface  
Cmt in place at 0630 hrs

<stagenum>, 18.5-5,107.0ftKB					
Top Depth (ftKB) 18.5	Bottom Depth (ftKB) 5,107.0	Full Return? Y	Vol Cement Ret (bbl) 47.0	Top Plug? N	Bottom Plug? Y
Initial Pump Rate (bbl/min) 5	Final Pump Rate (bbl/min) 3	Avg Pump Rate (bbl/min)		Final Pump Pressure (psi) 3,315.0	Plug Bump Pressure (psi) 2,155.0
Pipe Reciprocated? N	Reciprocation Stroke Length (ft)	Reciprocation Rate (spm)		Pipe Rotated? N	Pipe RPM (rpm)
Depth Tagged (MD) (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)		Drill Out Diameter (in)	Drill Out Date

Lead					
Fluid Type Lead	Fluid Description	Quantity (sacks) 420	Class C	Volume Pumped (bbl) 125.7	
Estimated Top (ftKB) 0.0	Estimated Bottom Depth (ftKB) 1,844.0	Percent Excess Pumped (%) 30.0	Yield (ft <sup>3</sup> /sack) 1.68	Fluid Mix Ratio (gal/sack) 8.43	
Free Water (%)	Density (lb/gal) 13.20	Zero Gel Time (lb/100ft <sup>2</sup> )	Thickening Time (hr)	1st Compressive Strength (psi)	

Cement Fluid Additives		
Add	Type	Conc

Tail					
Fluid Type Tail	Fluid Description	Quantity (sacks) 455	Class H	Volume Pumped (bbl) 83.5	
Estimated Top (ftKB) 1,844.0	Estimated Bottom Depth (ftKB) 5,107.0	Percent Excess Pumped (%) 30.0	Yield (ft <sup>3</sup> /sack) 1.03	Fluid Mix Ratio (gal/sack) 3.52	
Free Water (%)	Density (lb/gal) 15.80	Zero Gel Time (lb/100ft <sup>2</sup> )	Thickening Time (hr)	1st Compressive Strength (psi)	

Cement Fluid Additives		
Add	Type	Conc