Form 3160-5 (August 1999) RCVD MAY3'07 OIL CONS. DIV. DIST. 3

# UNITED STATES

FORM APPROVED

BUREAU OF LAND MANGEMENT							OMB N Expires November 30, 2000	o. 1004-01	135
SUNDRY NO	OTICES AND	REPORTS	ON WELI	LS			5. Lease Serial No.	<del></del>	
Do not use this form					wei	II. Use	NM (	1,38,60	- <del>-</del> -
	3160-3 (APD)						6. LiffIndian. Allottee o	of thibe N	ame
SUBMIT IN TRIPLIC	CATE - Otl	her instru	ctions or	reverse si	ide	<u> </u>	7. Unit or CAVAirreem	ent, Nam	ne and/or No.
1. Type of Well		<del></del>	<del></del>				8. Well Name and No		3.5.4
Oil Well X Gas Well	Other						Russe	II LS	5A
Name of Operator							9. API Well No.		
<b>BP America Production Company</b>	Attn: Cherr	y Hlava					30-04	45-2372	1
3a. Address		3b. Phone	No. (include	area code)			10. Field and Pool, or E	kplorator	y Area
P.O. Box 3092 Houston, TX 772	53		281-3	66-4081			Blanco Mesav	erde/Ot	ero Chacra
4. Location of Well (Footage, Sec., T.,	R., M., or Survey	Description)		<u>.                                      </u>			11. County or Parish, St	ate	
1790' FSL & 990' FEL Sec	25 T28N	R08W					San Juan Co	unty, Ne	w Mexico
12. CHECK	APPROPRIATE	BOX(ES) To	O INDICATE	NATURE OR	N	OTICE, RE	EPORT, OR OTHER DAT	Α	<u>-</u>
TYPE OF SUBMISSION				TY	PE	OF ACTIO	ON		
Notice of Intent	Acidize		Deepen			Productio	n (Start/Resume)		Water shut-Off
Subsequent Report	Alter Casi	ing 🔲	Fracture Ti	reat [		Reclamat	ion		Well Integrity
Final Abandonment Notice	Casing Ro	_	New Const	truction [	]	Recomple	ete		Abandon
	Change P.	lans 🗀	Plug and A	_	╛	Water Dis	•	_	
13. Describe Proposed or Completed Operation	Injection	L.	Plug Back		X	Other	Downhole		
results in a multiple completion or recomp requirements, including reclamation, have BP America Production (Pool and commingle pro The Blanco Mesaverde (Commingling per NMOC commingled pools are the allocated based on the s Mesaverde. That production decline estimated to the second commingled well. The based on the second commingled well.	Company reduction Down 72319) & Ote Down R-1 we same, the bubtraction ration shall salance of the ates for the	equests permitted with the control of the control o	ermission ith the extra (82329 e working addition sing the factor will I rede. Co	n to recome tisting Bland (a) Pools are good as a coverridate of the projected of the projected of the production of the attribute ommingling the comming the comm	plone Plintic fut ned g	ete the comesa Pre-Apping royalistic decoration is reconstruction to the Common to the	subject well into to verde as per the a roved Pools for Dety interest owners quired. Production ted from the total Chacra. Attached tion Downhole in the subject of the test of the total test of the total the total test of the total the	he Ote ttache ownho in the n is pr n from produ is the	ero Chacra ed procedure. ele e proposed eoposed to be in the cotion for the future
from the proposed pools	will not red		C 26		ma	aining p	oroduction.		
14. I hereby certify that the foregoing is	true and correct	t .							
Name (Printed/typed)	Cherry Hlava			Title	Re	gulatory	Analyst		
Signature Chevry Hlava				Date 4	4/3	0/2007			
The second secon	THIS	SPACE FO	R FEDERA	L OR STAT	ΓE	OFFICE	USE		ALIM TEMPLE
Original Signe	d: Stephen M	ason				·		44.4	v fi o 2007
Approved by			[	Title			Date	MA	Y 0 2 2007
Conditions of approval, if any, are attached. Ap that the applicant holds legal or equitable title to entitle the applicant to conduct operations thereo	those rights in the		nich would	Office					
Title 18 U.S.C. Section 1001 and Title 43		1212, make i			wii	ngly and w	illfully to make to any dep	artment (	or agency of the

United States any false, fictitious or fraudulent statements or representations as to any matter witin its jurisdiction.

<u>District I</u>

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District [1]

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

## State of New Mexico

Energy, Minerals & Natural Resources Department

# OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

AM 10: Fee Lease - 3 Copies

District IV					Santa Fe, NM	l 87505	****				
1220 S. St. Francis	s Dr., Santa I	•					RFO	EIVED AME	NDED REPORT		
		W	ELL LO	CATION	N AND ACRE	AGE DEDICA	TION PLAT	BLH	ı		
r	г	<u> </u>	Pool Code		CREAGE DEDICATION PLATELY 2 POINTERN TOWN						
30-	-045-237			82329		Otero Chacra					
* Property	Code		-, <b>-</b>		<sup>3</sup> Property Na	me		<sup>6</sup> Well Number			
1000				Russell LS				5A			
OGRID	No.	···	· · · · ·		<sup>8</sup> Operator Na	ıme			Elevation		
000778			BP A	merica Product		6212'					
		,			10 Surface L	ocation	·	1,			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County		
I	25	28N	8W	į	1790	South	990	East	San Juan		
			<sup>11</sup> Bo	ttom Ho	le Location If l	Different From	Surface				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County		
						]			MAY3'07		
12 Dedicated Acre	es 13 Joint e	or Infill 14 C	onsolidation (	Code 15 Or	der No.	<del></del>			JNS. DIV.		
160								DI:	ST. 3		

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

16			17 OPERATOR CERTIFICATION  I heretry certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.
			Cherry Hlava  Cherry Hlava  O4/24/2007  Printed Name
		·	<sup>18</sup> SURVEYOR CERTIFICATION  I hereby certify that the well location shown on this
		990'	plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. ON FILE Date of Survey
		1790°	Signature and Seal of Professional Surveyor.  3950  Certificate Number

# San Juan Basin Downhole Commingling Procedure

Well Name: Russell A 5A
Date: April 23, 2007
Repair Type: Recompletion

Objective: Perforate and frac Chacra, and downhole co-mingle Chacra, and Mesaverde

1. TOH with completion.

2. Perforate and fracture Chacra.

3. Land tbg and return well to production.

4. Downhole co-mingle Chacra, and Mesaverde.

Location: T28N-R8W-Sec25 API #: 30-045-23721

County: San Juan

State: New Mexico Engr: Richard Pomrenke

Horizon: Mesaverde/Chacra ph (281) 366-1946 fax (281) 366-0700

#### Procedure:

Perform pre-rig site inspection. Check for: size of location, Gas Taps, other wells, other
operators, running equipment, wetlands, wash (dikes req.), H2S, barriers needed for
equipment, Landowner issues, location of pits (buried lines in pits), Raptor nesting,
critical location, check anchors. Check ID wellhead, if earth pit is required have One
Call made 48 hours prior to digging.

- 2. Perform second site visit after lines are marked to ensure all lines clear marked pit locations. Planning and Scheduling to ready location for rig.
- 3. RU slickline unit or wireline unit. Pressure test lubricator and equipment. RIH and set **two** barriers (CIBP, tbg collar stop w/plug, or plug set in nipple) for isolation in tubing string.
- 4. Check and record tubing, casing, and bradenhead pressures. Ensure production casing has double casing valves installed. Double valve all casing strings.
- 5. If bradenhead pressure is observed and does not blow down, we will perform a bradenhead repair after identifying TOC in the 7" casing.
- 6. MIRU workover rig. LO/TO all necessary equipment including but not limited to: meter run, Automation, Separators and water lines.
- 7. Blow down well. Kill with 2% KCL water ONLY if necessary.

- 8. Check all casing strings to ensure no pressure exist on any annulus. The operations of removal of wellhead and installation of BOP's will be performed under a dispensation for one (1) barrier on the backside.
- 9. Nipple down Wellhead. NU 2 3/8" BOPs and diversion spool with 3" outlets and 3" pipe to the blow tank. Pressure test BOPs to 200 psi above BHP. Monitor flowing casing pressure with gauge (with casing flowing to blow tank) throughout workover.
- 10. Install stripping rubber, pull tubing hanger up above pipe rams, and shut pipe rams.

  Remove stripping rubber. Strip tubing hanger out of hole. Re-install stripping rubber.
- 11. TOH with 2-3/8" production tubing currently set at 5350'. Using approved "Under Balance Well Control Tripping Procedure".
- 12. TIH w/ 4 1/2" scrapers. Check the distance between the top of the blind rams and the length of the bottom hole assembly that is being run. If the BHA is too long then the well has to be top killed and monitored prior to opening bind rams. RIH to PBTD at 5,393'. POOH.
- 13. Set composite bridge plug at 4,300'. Fill casing w/ 2%KCl.
- 14. RU E-line equipment. Pressure test lubricator and equipment. Log well with CBL from 4,300' to surface. If the TOC in the 4 ½" liner is below the TOL, contact engineer to discuss. Upload CBL into Schlumberger system as soon as possible.
- 15. Replace Wellhead if needed.
- 16. TIH with 2 3/8" x 4 1/2" test packer on 2 3/8" tubing. Set Packer at +/-3000'
- 17. Pressure test 4 ½" casing down tubing to 2000 psi surface pressure. Note with 2% KCl fluid in the hole, the 4 ½" casing will be tested to approximately 3900 psi.
- 18. Prior to coming out of hole with packer and tubing, spot 400 gallons (9.5 bbls) of 15% HCL from 4000' to 3400'. TOH w/ tubing and packer. Note: Attempt to schedule perforating the same day as acid spotting.
- 19. TOH w/ tubing and packer.
- 20. Prepare for explosive operations. Follow Schlumberger Explosive SOP including radio silence, suspension of welding operations, and isolation of electrical devices from the work area. Perform Pre-job Safety Meeting to review JSA and procedures. Meeting should address the VDR (vehicle data recorder) System that Bp people have installed on their vehicles. They must be shut off at the 300 foot sign by hitting 00 and then the enter button, and then wait for about 5 minutes for the unit to turn off. When the green light goes out, call the control center at 326-9475. This number is on a pickup list in the Optimizer room and should be your first point of contact followed by the front desk then the weekend pager. Verify the unit is not transmitting. You then can drive to location and park, but do not to exceed 10 Miles/hr. Note: 20 MPH will turn unit back on. If someone has On Star on their vehicle they cannot enter closer than 300 foot. On Star cannot be

turned off. PLEASE take special caution. This is in conjunction with all cell phones, pagers, radios and any electronic devise that transmits a signal.

21. RIH with 3-3/8" High Shot Density casing gun loaded with Power Jet charges at 4 SPF 60 Degree Phasing w/lubricator and perforate Chacra formation.

### 3650-3900 at 4 SPF 60° Phasing.

Exact depths to be determined after fracture treatment modeling completed.

- 22. TIH w/ 3-1/2" N-80 frac string with 2 jt of 2 3/8" N-80 and 4 ½" x 2 3/8" packer. Configure packer assembly as 2 3/8" x 5 ½ (full bore); 2 3/8 down hole shutoff valve. This assembly will be made up and pressure tested in the packer service shop.
- 23. RU 10,000 psi Stinger Isolation Tool (use full bore tool to reduce turbulence and chance for washout). Space out and land frac string at +/- 3000' and set packer.
- 24. Prior to closing the Shut-off valve, establish injection into well and pump minimum of 60 bbls 2%KCl after tubing fill-up. This will thoroughly displace acid to formation and insure that perforations are open. Close shutoff valve. Load tubing and pressure test to approximately 1500 psi with rig pumps. RU test pump and pressure test tubing to 7000 psi for 10-15 minutes.
- 25. RU frac equipment. Purge pumps and pressure test iron to frac valve at 8000 psi. Set pump trips at 5800-6000 psi. Set PRV at 6500 psi. Treat well at a maximum of 5800 psi.
- 26. Install and monitor production casing and treating pressure during entire job in frac van via pressure transducers on production casing and treating line.
- 27. Maintain surface pressures less than 5,800 psi during frac job. Flush frac with foam. Fill out GWSI scorecard.
- 28. Install and monitor production casing and treating pressure during entire job in frac van via pressure transducers on production casing and treating line. Spearhead 500 gal 15% HCL, establish injection rate, and proceed with fracture stimulation according to service company schedule.
- 29. Flowback frac immediately. Flow well through choke manifold on ¼", ½" and ¾" chokes increasing drawdown until well dies or stabilizes. This is to aid in reducing sand flowback. Recommend 8 hours of flow for each choke size.
- 30. Release packer. TOH w/ 3 ½" x 2 3/8" frac string and packer.
- 31. Rig up air package/unit, pressure test all lines (Testing procedure to be supplied from air company), TIH with tubing and bit for 4-1/2" casing. Cleanout fill to top of BP set at 4,300'. Perform 8-12 hr well test on Chacra and document well test in DIMS. Contact Cherry Hlava (281-366-4081) after DIMS has been updated.

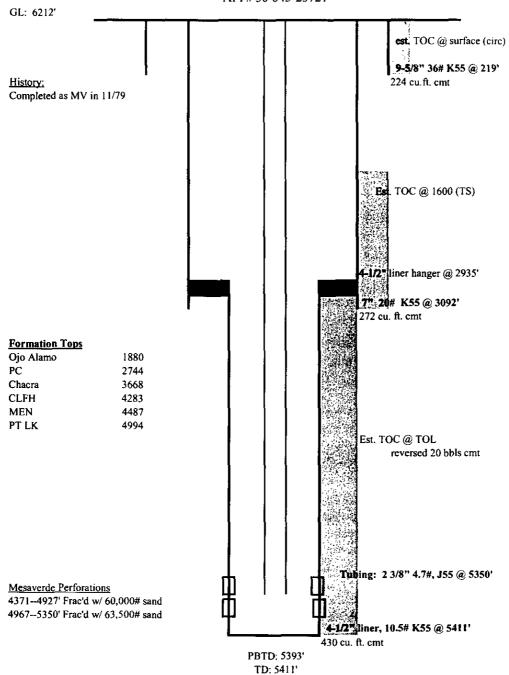
- 32. Cleanout fill and BP set at 4,300'. Cleanout to PBTD at 5,393'. Blow well dry.
- 33. Rabbit tubing and RIH with 2-3/8" production tubing (with muleshoe, F-nipple with plug, 4 ft pup, X-nipple with plug).
- 34. Land 2-3/8" production tubing at +/- 5,300'. Lock down hanger and tubing bonnet.
- 35. Pressure test tubing to 500 psi with air unit, make sure tubing spool valves are open. Care should be taken during pressure testing of the tubing due to potential problem caused if tubing parts close to surface or above the hanger. Check all casing string for pressure. The operations of removal of wellhead and installation of BOP's will be performed under a dispensation for one (1) barrier on the backside.
- 36. ND BOP's. NU Wellhead. During Master valve placement ensure the top of hanger has spacer nipple in place to bottom of bonnet flange so plunger equipment will not hang up through tree. Pressure test Wellhead.
- 37. RU WL unit. Run gauge ring for 2-3/8" tubing. Pull plugs and set tubing stop for plunger. Communicate plunger equipment status to IC room personnel.
- 38. RD slickline unit.
- 39. Test well for air. Return well to production and downhole co-mingle Chacra and Mesaverde.

# Richard W. Pomrenke

Production Engineer-Consultant Capital Deployment Well Work WL 19.113 281-366-5023 office 281 455 8449 cell

# Russell A 5A

Sec 25, T28N, R8W API # 30-045-23721



NOTES:

updated: 10/13/06 JG

Russell A SA	
Starting 1/98 thru 11/1/2   Starting 1/98 thru 11/1/2   Starting 1/98 thru 11/1/2   Starting 1/98 thru 11/1/2   Starting 1/97 through   Starting 12/1/2 thru 4/34   Starting 12/1/2 thru 4/1/2 thru 4/1/2 thru 4/1/2 thru 4/1/2 thru 4/1/2 thru 4/1/2 thru 4	
Starting 1/98 thru 11/1/2	
Exponential Decline	
Exponential Decline	
Exponential Decline	
Qi =   107.7   mcfd   Jan-07	
Cf =   75.0 mc/d	
Starting 12/12 thru 4/34   Starting 12/12 thru	<u>-</u>
Exponential Decline	
Exponential Decline	
Exponential Decline	
Qi =         75.0 mcld         Dec-12           Qf =         10.0 mcld         Derended           D =         9.00% per year         Gas         C4         Apr-10         Gas	
Gas   Gas	
D =   9.00%   per year     Gas   Gas   Rate   Wolume   mcffd   MMSCF   Date   Mcffd	
Cas   Cas	
Date Date mcf/d m/mscr         Mascr Date mcf/d m/mscr         Date mcf/d m/mscr         Rate mcf/d m/mscr         Volume mcf/d m/mscr         Rate mcf/d m/mscr         Volume mcf/d m/mscr         Rate mcf/d m/mscr         Date mcf/d m/mscr         Rate mcf/d m/mscr         Volume mcf/d m/mscr         Rate mcf/d m/mscr         Date mcf/d m/mscr         Rate mcf/d m/mscr         Volume mcf/d m/mscr         Rate mcf/d m/mscr         Volume mcf/d m/mscr         Rate mcf/d m/mscr         Mar-12 mcf/d m/mscr         78.85 mcf/d m/mscr         2.44 mcf/d mcf/d m/mscr         Jul-14 mcf/d m/mscr         63.7 mcf/d m/mscr         63.2 mcf/mscr         63.2 mcf/d m/mscr         63.2 mcf/mscr         63.2	
Date   mcf/d   MMSCF   Date   mcf/d   Macf	Gas
Date   mcf/d   MMSCF   Date   mcf/d   MMSCF   Date   mcf/d   MMSCF   Date   mcf/d   Jan-07   107.47   3.33   Jul-09   92.21   2.86   Jan-12   78.85   2.44   Jul-14   64.2	Volume
Jan-07	
Feb-07         106.94         2.99         Aug-09         91.73         2.84         Feb-12         78.46         2.28         Aug-14         63.7           Mar-07         106.41         3.30         Sep-09         91.26         2.74         Mar-12         78.06         2.42         Sep-14         63.2           Apr-07         105.87         3.18         Oct-09         90.79         2.81         Apr-12         77.67         2.33         Oct-14         62.7           May-07         105.33         3.27         Nov-09         90.33         2.71         May-12         77.27         2.40         Nov-14         62.2           Jun-07         104.79         3.14         Dec-09         89.86         2.79         Jun-12         76.88         2.31         Dec-14         61.7           Jul-07         104.25         3.23         Jan-10         89.40         2.77         Jul-12         76.48         2.37         Jan-15         61.2           Aug-07         103.71         3.21         Feb-10         88.95         2.49         Aug-12         76.09         2.36         Feb-15         60.8           Sep-07         103.18         3.10         Mar-10         88.91	MMSCF
Mar-07         106.41         3.30         Sep-09         91.26         2.74         Mar-12         78.06         2.42         Sep-14         63.2           Apr-07         105.87         3.18         Oct-09         90.79         2.81         Apr-12         77.67         2.33         Oct-14         62.7           May-07         105.33         3.27         Nov-09         90.33         2.71         May-12         77.27         2.40         Nov-14         62.2           Jun-07         104.79         3.14         Dec-09         89.86         2.79         Jun-12         76.88         2.31         Dec-14         61.7           Jul-07         104.25         3.23         Jan-10         89.40         2.77         Jul-12         76.48         2.37         Jan-15         61.2           Aug-07         103.71         3.21         Feb-10         88.95         2.49         Aug-12         76.09         2.36         Feb-15         60.8           Sep-07         103.18         3.10         Mar-10         88.95         2.49         Aug-12         76.09         2.36         Feb-15         60.8           Sep-07         102.65         3.18         Apr-10         88.06	1.99
Apr-07         105.87         3.18         Oct-09         90.79         2.81         Apr-12         77.67         2.33         Oct-14         62.7           May-07         105.33         3.27         Nov-09         90.33         2.71         May-12         77.27         2.40         Nov-14         62.2           Jul-07         104.79         3.14         Dec-09         89.86         2.79         Jun-12         76.88         2.31         Dec-14         61.2           Aug-07         103.71         3.21         Feb-10         88.95         2.49         Aug-12         76.09         2.36         Feb-15         60.2           Sep-07         103.18         3.10         Mar-10         88.95         2.49         Aug-12         76.09         2.36         Feb-15         60.3           Sep-07         103.18         3.10         Mar-10         88.51         2.74         Sep-12         75.70         2.27         Mar-15         60.3           Oct-07         102.65         3.18         Apr-10         88.66         2.64         Oct-12         75.31         2.33         Apr-15         59.8           Nov-07         101.60         3.15         Jun-10         87.61	1.98
May-07         105.33         3.27         Nov-09         90.33         2.71         May-12         77.27         2.40         Nov-14         62.2           Jun-07         104.79         3.14         Dec-09         89.86         2.79         Jun-12         76.88         2.31         Dec-14         61.7           Jul-07         104.25         3.23         Jan-10         89.40         2.77         Jul-12         76.48         2.37         Jan-15         61.2           Aug-07         103.71         3.21         Feb-10         88.95         2.49         Aug-12         76.09         2.36         Feb-15         60.8           Sep-07         103.18         3.10         Mar-10         88.95         2.49         Aug-12         75.70         2.27         Mar-15         60.8           Sep-07         102.65         3.18         Apr-10         88.96         2.64         Oct-12         75.31         2.33         Apr-15         59.8           Nov-07         102.13         3.06         May-10         87.16         2.61         Dec-12         74.38         2.31         Jun-15         59.4           Dec-07         101.60         3.12         Jul-10         86.72	1.90
Jun-07   104.79   3.14   Dec-09   89.86   2.79   Jun-12   76.88   2.31   Dec-14   61.7	1.95
Jul-07         104.25         3.23         Jan-10         89.40         2.77         Jul-12         76.48         2.37         Jan-15         61.2           Aug-07         103.71         3.21         Feb-10         88.95         2.49         Aug-12         76.09         2.36         Feb-15         60.8           Sep-07         103.18         3.10         Mar-10         88.51         2.74         Sep-12         75.70         2.27         Mar-15         60.3           Oct-07         102.65         3.18         Apr-10         88.06         2.64         Oct-12         75.31         2.33         Apr-15         59.8           Nov-07         102.13         3.06         May-10         87.61         2.72         Nov-12         74.92         2.25         May-15         59.8           Dec-07         101.60         3.15         Jun-10         87.61         2.72         Nov-12         74.92         2.25         May-15         58.9           Jan-08         100.80         3.12         Jul-10         86.72         2.69         Jan-13         73.99         2.29         Jul-15         58.4           Feb-08         100.29         2.91         Aug-10         86.27	1.87
Aug-07         103.71         3.21         Feb-10         88.95         2.49         Aug-12         76.09         2.36         Feb-15         60.8           Sep-07         103.18         3.10         Mar-10         88.51         2.74         Sep-12         75.70         2.27         Mar-15         60.3           Oct-07         102.65         3.18         Apr-10         88.06         2.64         Oct-12         75.31         2.33         Apr-15         59.8           Nov-07         102.13         3.06         May-10         87.61         2.72         Nov-12         74.92         2.25         May-15         59.4           Dec-07         101.60         3.15         Jun-10         86.72         2.69         Jan-13         73.99         2.29         Jul-15         58.9           Dec-07         101.60         3.12         Jul-10         86.72         2.69         Jan-13         73.99         2.29         Jul-15         58.9           Dec-08         100.29         2.91         Aug-10         86.27         2.67         Feb-13         73.43         2.06         Aug-15         58.0           Mar-08         99.79         3.09         Sep-10         85.82	1.91
Sep-07         103.18         3.10         Mar-10         88.51         2.74         Sep-12         75.70         2.27         Mar-15         60.3           Oct-07         102.65         3.18         Apr-10         88.06         2.64         Oct-12         75.31         2.33         Apr-15         59.8           Nov-07         102.13         3.06         May-10         87.61         2.72         Nov-12         74.92         2.25         May-15         59.4           Dec-07         101.60         3.15         Jun-10         87.16         2.61         Dec-12         74.38         2.31         Jun-15         58.9           Jan-08         100.80         3.12         Jul-10         86.72         2.69         Jan-13         73.99         2.29         Jul-15         58.9           Feb-08         100.29         2.91         Aug-10         86.27         2.67         Feb-13         73.43         2.06         Aug-15         58.9           Mar-08         99.79         3.09         Sep-10         85.82         2.57         Mar-13         72.87         2.26         Sep-15         57.5           Apr-08         99.28         2.98         Oct-10         85.89         <	1.90
Oct-07         102.65         3.18         Apr-10         88.06         2.64         Oct-12         75.31         2.33         Apr-15         59.8           Nov-07         102.13         3.06         May-10         87.61         2.72         Nov-12         74.92         2.25         May-15         59.4           Dec-07         101.60         3.15         Jun-10         87.16         2.61         Dec-12         74.38         2.31         Jun-15         58.9           Jan-08         100.80         3.12         Jul-10         86.72         2.69         Jan-13         73.99         2.29         Jul-15         58.9           Feb-08         100.29         2.91         Aug-10         86.27         2.67         Feb-13         73.43         2.06         Aug-15         58.0           Mar-08         99.79         3.09         Sep-10         85.82         2.57         Mar-13         72.87         2.26         Sep-15         57.5           Apr-08         99.28         2.98         Oct-10         84.95         2.55         May-13         71.74         2.22         Nov-15         56.2           Jun-08         98.77         3.06         Nov-10         84.95 <t< td=""><td>1.70</td></t<>	1.70
Nov-07         102.13         3.06         May-10         87.61         2.72         Nov-12         74.92         2.25         May-15         59.4           Dec-07         101.60         3.15         Jun-10         87.16         2.61         Dec-12         74.38         2.31         Jun-15         58.9           Jan-08         100.80         3.12         Jul-10         86.72         2.69         Jan-13         73.99         2.29         Jul-15         58.9           Feb-08         100.29         2.91         Aug-10         86.27         2.67         Feb-13         73.43         2.06         Aug-15         58.0           Mar-08         99.79         3.09         Sep-10         85.82         2.57         Mar-13         72.87         2.26         Sep-15         57.5           Apr-08         99.28         2.98         Oct-10         85.39         2.65         Apr-13         72.30         2.17         Oct-15         57.1           May-08         98.77         3.06         Nov-10         84.95         2.55         May-13         71.74         2.22         Nov-15         56.6           Jul-08         97.77         3.03         Jan-11         84.07 <td< td=""><td>1.87</td></td<>	1.87
Dec-07         101.60         3.15         Jun-10         87.16         2.61         Dec-12         74.38         2.31         Jun-15         58.9           Jan-08         100.80         3.12         Jul-10         86.72         2.69         Jan-13         73.99         2.29         Jul-15         58.4           Feb-08         100.29         2.91         Aug-10         86.27         2.67         Feb-13         73.43         2.06         Aug-15         58.0           Mar-08         99.79         3.09         Sep-10         85.82         2.57         Mar-13         72.87         2.26         Sep-15         57.5           Apr-08         99.28         2.98         Oct-10         85.39         2.65         Apr-13         72.30         2.17         Oct-15         57.5           May-08         98.77         3.06         Nov-10         84.95         2.55         May-13         71.74         2.22         Nov-15         56.6           Jun-08         98.27         2.95         Dec-10         84.51         2.62         Jun-13         71.17         2.14         Dec-15         56.2           Jul-08         97.77         3.03         Jan-11         84.07	1.80
Jan-08         100.80         3.12         Jul-10         86.72         2.69         Jan-13         73.99         2.29         Jul-15         58.4           Feb-08         100.29         2.91         Aug-10         86.27         2.67         Feb-13         73.43         2.06         Aug-15         58.0           Mar-08         99.79         3.09         Sep-10         85.82         2.57         Mar-13         72.87         2.26         Sep-15         57.5           Apr-08         99.28         2.98         Oct-10         85.39         2.65         Apr-13         72.30         2.17         Oct-15         57.1           May-08         98.77         3.06         Nov-10         84.95         2.55         May-13         71.74         2.22         Nov-15         56.6           Jun-08         98.27         2.95         Dec-10         84.51         2.62         Jun-13         71.17         2.14         Dec-15         56.2           Jul-08         97.77         3.03         Jan-11         84.07         2.61         Jul-13         70.61         2.19         Jan-16         55.6           Sep-08         97.26         3.02         Feb-11         83.66         2	1.84
Feb-08         100.29         2.91         Aug-10         86.27         2.67         Feb-13         73.43         2.06         Aug-15         58.0           Mar-08         99.79         3.09         Sep-10         85.82         2.57         Mar-13         72.87         2.26         Sep-15         57.5           Apr-08         99.28         2.98         Oct-10         85.39         2.65         Apr-13         72.30         2.17         Oct-15         57.1           May-08         98.77         3.06         Nov-10         84.95         2.55         May-13         71.74         2.22         Nov-15         56.6           Jun-08         98.27         2.95         Dec-10         84.51         2.62         Jun-13         71.17         2.14         Dec-15         56.2           Jul-08         97.77         3.03         Jan-11         84.07         2.61         Jul-13         70.61         2.19         Jan-16         55.6           Aug-08         97.26         3.02         Feb-11         83.66         2.34         Aug-13         70.05         2.17         Feb-16         55.1           Sep-08         96.77         2.90         Mar-11         82.82         2.	1.77
Mar-08         99.79         3.09         Sep-10         85.82         2.57         Mar-13         72.87         2.26         Sep-15         57.5           Apr-08         99.28         2.98         Oct-10         85.39         2.65         Apr-13         72.30         2.17         Oct-15         57.1           May-08         98.77         3.06         Nov-10         84.95         2.55         May-13         71.74         2.22         Nov-15         56.6           Jun-08         98.27         2.95         Dec-10         84.51         2.62         Jun-13         71.17         2.14         Dec-15         56.2           Jul-08         97.77         3.03         Jan-11         84.07         2.61         Jul-13         70.61         2.19         Jan-16         55.6           Aug-08         97.26         3.02         Feb-11         83.66         2.34         Aug-13         70.05         2.17         Feb-16         55.1           Sep-08         96.77         2.90         Mar-11         83.24         2.58         Sep-13         69.50         2.09         Mar-16         54.7           Oct-08         96.27         2.98         Apr-11         82.82         2.4	1.81
Apr-08         99.28         2.98         Oct-10         85.39         2.65         Apr-13         72.30         2.17         Oct-15         57.1           May-08         98.77         3.06         Nov-10         84.95         2.55         May-13         71.74         2.22         Nov-15         56.6           Jun-08         98.27         2.95         Dec-10         84.51         2.62         Jun-13         71.17         2.14         Dec-15         56.2           Jul-08         97.77         3.03         Jan-11         84.07         2.61         Jul-13         70.61         2.19         Jan-16         55.6           Aug-08         97.26         3.02         Feb-11         83.66         2.34         Aug-13         70.05         2.17         Feb-16         55.1           Sep-08         96.77         2.90         Mar-11         83.24         2.58         Sep-13         69.50         2.09         Mar-16         54.7           Oct-08         96.27         2.98         Apr-11         82.82         2.48         Oct-13         68.95         2.14         Apr-16         54.3           Nov-08         95.78         2.87         May-11         82.40         2.5	1.80
May-08         98.77         3.06         Nov-10         84.95         2.55         May-13         71.74         2.22         Nov-15         56.6           Jun-08         98.27         2.95         Dec-10         84.51         2.62         Jun-13         71.17         2.14         Dec-15         56.2           Jul-08         97.77         3.03         Jan-11         84.07         2.61         Jul-13         70.61         2.19         Jan-16         55.6           Aug-08         97.26         3.02         Feb-11         83.66         2.34         Aug-13         70.05         2.17         Feb-16         55.1           Sep-08         96.77         2.90         Mar-11         83.24         2.58         Sep-13         69.50         2.09         Mar-16         54.7           Oct-08         96.27         2.98         Apr-11         82.82         2.48         Oct-13         68.95         2.14         Apr-16         54.3           Nov-08         95.78         2.87         May-11         82.40         2.55         Nov-13         68.41         2.05         May-16         53.9           Dec-08         95.29         2.95         Jun-11         81.97         2.4	1.73
Jun-08         98.27         2.95         Dec-10         84.51         2.62         Jun-13         71.17         2.14         Dec-15         56.2           Jul-08         97.77         3.03         Jan-11         84.07         2.61         Jul-13         70.61         2.19         Jan-16         55.6           Aug-08         97.26         3.02         Feb-11         83.66         2.34         Aug-13         70.05         2.17         Feb-16         55.1           Sep-08         96.77         2.90         Mar-11         83.24         2.58         Sep-13         69.50         2.09         Mar-16         54.7           Oct-08         96.27         2.98         Apr-11         82.82         2.48         Oct-13         68.95         2.14         Apr-16         54.3           Nov-08         95.78         2.87         May-11         82.40         2.55         Nov-13         68.41         2.05         May-16         53.9           Dec-08         95.29         2.95         Jun-11         81.97         2.46         Dec-13         67.88         2.10         Jun-16         53.4           Jan-09         95.06         2.95         Jul-11         81.55         2.5	1.77
Jul-08         97.77         3.03         Jan-11         84.07         2.61         Jul-13         70.61         2.19         Jan-16         55.6           Aug-08         97.26         3.02         Feb-11         83.66         2.34         Aug-13         70.05         2.17         Feb-16         55.1           Sep-08         96.77         2.90         Mar-11         83.24         2.58         Sep-13         69.50         2.09         Mar-16         54.7           Oct-08         96.27         2.98         Apr-11         82.82         2.48         Oct-13         68.95         2.14         Apr-16         54.3           Nov-08         95.78         2.87         May-11         82.40         2.55         Nov-13         68.41         2.05         May-16         53.9           Dec-08         95.29         2.95         Jun-11         81.97         2.46         Dec-13         67.88         2.10         Jun-16         53.4           Jan-09         95.06         2.95         Jul-11         81.55         2.53         Jan-14         67.33         2.09         Jul-16         53.0           Feb-09         94.59         2.65         Aug-11         81.13         2.5	1.70
Aug-08         97.26         3.02         Feb-11         83.66         2.34         Aug-13         70.05         2.17         Feb-16         55.1           Sep-08         96.77         2.90         Mar-11         83.24         2.58         Sep-13         69.50         2.09         Mar-16         54.7           Oct-08         96.27         2.98         Apr-11         82.82         2.48         Oct-13         68.95         2.14         Apr-16         54.3           Nov-08         95.78         2.87         May-11         82.40         2.55         Nov-13         68.41         2.05         May-16         53.9           Dec-08         95.29         2.95         Jun-11         81.97         2.46         Dec-13         67.88         2.10         Jun-16         53.4           Jan-09         95.06         2.95         Jul-11         81.55         2.53         Jan-14         67.33         2.09         Jul-16         53.0           Feb-09         94.59         2.65         Aug-11         81.13         2.52         Feb-14         66.82         1.87         Aug-16         52.6           Mar-09         94.12         2.92         Sep-11         80.72         2.4	1.74
Sep-08         96.77         2.90         Mar-11         83.24         2.58         Sep-13         69.50         2.09         Mar-16         54.7           Oct-08         96.27         2.98         Apr-11         82.82         2.48         Oct-13         68.95         2.14         Apr-16         54.3           Nov-08         95.78         2.87         May-11         82.40         2.55         Nov-13         68.41         2.05         May-16         53.9           Dec-08         95.29         2.95         Jun-11         81.97         2.46         Dec-13         67.88         2.10         Jun-16         53.4           Jan-09         95.06         2.95         Jul-11         81.55         2.53         Jan-14         67.33         2.09         Jul-16         53.0           Feb-09         94.59         2.65         Aug-11         81.13         2.52         Feb-14         66.82         1.87         Aug-16         52.6           Mar-09         94.12         2.92         Sep-11         80.72         2.42         Mar-14         66.32         2.06         Sep-16         52.2           Apr-09         93.64         2.81         Oct-11         80.30         2.4	1.72
Oct-08         96.27         2.98         Apr-11         82.82         2.48         Oct-13         68.95         2.14         Apr-16         54.3           Nov-08         95.78         2.87         May-11         82.40         2.55         Nov-13         68.41         2.05         May-16         53.9           Dec-08         95.29         2.95         Jun-11         81.97         2.46         Dec-13         67.88         2.10         Jun-16         53.4           Jan-09         95.06         2.95         Jul-11         81.55         2.53         Jan-14         67.33         2.09         Jul-16         53.0           Feb-09         94.59         2.65         Aug-11         81.13         2.52         Feb-14         66.82         1.87         Aug-16         52.6           Mar-09         94.12         2.92         Sep-11         80.72         2.42         Mar-14         66.32         2.06         Sep-16         52.2           Apr-09         93.64         2.81         Oct-11         80.30         2.49         Apr-14         65.80         1.97         Oct-16         51.8	
Nov-08         95.78         2.87         May-11         82.40         2.55         Nov-13         68.41         2.05         May-16         53.9           Dec-08         95.29         2.95         Jun-11         81.97         2.46         Dec-13         67.88         2.10         Jun-16         53.4           Jan-09         95.06         2.95         Jul-11         81.55         2.53         Jan-14         67.33         2.09         Jul-16         53.0           Feb-09         94.59         2.65         Aug-11         81.13         2.52         Feb-14         66.82         1.87         Aug-16         52.6           Mar-09         94.12         2.92         Sep-11         80.72         2.42         Mar-14         66.32         2.06         Sep-16         52.2           Apr-09         93.64         2.81         Oct-11         80.30         2.49         Apr-14         65.80         1.97         Oct-16         51.8	
Dec-08         95.29         2.95         Jun-11         81.97         2.46         Dec-13         67.88         2.10         Jun-16         53.4           Jan-09         95.06         2.95         Jul-11         81.55         2.53         Jan-14         67.33         2.09         Jul-16         53.0           Feb-09         94.59         2.65         Aug-11         81.13         2.52         Feb-14         66.82         1.87         Aug-16         52.6           Mar-09         94.12         2.92         Sep-11         80.72         2.42         Mar-14         66.32         2.06         Sep-16         52.2           Apr-09         93.64         2.81         Oct-11         80.30         2.49         Apr-14         65.80         1.97         Oct-16         51.8	
Jan-09         95.06         2.95         Jul-11         81.55         2.53         Jan-14         67.33         2.09         Jul-16         53.0           Feb-09         94.59         2.65         Aug-11         81.13         2.52         Feb-14         66.82         1.87         Aug-16         52.6           Mar-09         94.12         2.92         Sep-11         80.72         2.42         Mar-14         66.32         2.06         Sep-16         52.2           Apr-09         93.64         2.81         Oct-11         80.30         2.49         Apr-14         65.80         1.97         Oct-16         51.8	
Feb-09         94.59         2.65         Aug-11         81.13         2.52         Feb-14         66.82         1.87         Aug-16         52.6           Mar-09         94.12         2.92         Sep-11         80.72         2.42         Mar-14         66.32         2.06         Sep-16         52.2           Apr-09         93.64         2.81         Oct-11         80.30         2.49         Apr-14         65.80         1.97         Oct-16         51.8	
Mar-09         94.12         2.92         Sep-11         80.72         2.42         Mar-14         66.32         2.06         Sep-16         52.2           Apr-09         93.64         2.81         Oct-11         80.30         2.49         Apr-14         65.80         1.97         Oct-16         51.8	
Apr-09 93.64 2.81 Oct-11 80.30 2.49 Apr-14 65.80 1.97 Oct-16 51.8	
May-09 93.16 2.89 Nov-11 79.89 2.40 May-14 65.28 2.02 Nov-16 51.4	
Jun-09         92.68         2.78         Dec-11         79.48         2.46         Jun-14         64.77         1.94         Dec-16         51.0	1.58
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