



Cement Summary

Surface Casing Cement

Well Name SALADO DRAW WE 23 FED P7 004H	Lease SD 23 FED P7	Field Name JENNINGS	Business Unit Mid-Continent
Ground Elevation (ft) 3,165.00	Original RKB (ft) 3,197.60	Current RKB Elevation 3,197.60, 3/28/2016	Mud Line Elevation (ft) Water Depth (ft)

Original Hole

Wellbore Name Original Hole	Directional Type Horizontal	Min Kick Off Depth (ftKB) 8,510.0	Vertical Section Direction (°) 176.66
Hole Size (in)	Act Top (ftKB)	Act Btm (ftKB)	
17 1/2	32.6	841.0	
12 1/4	841.0	4,587.0	
8 3/4	4,587.0	14,002.0	

Multi-bowl, FMC on 4/20/2016 17:00

Sub-Type Multi-bowl			Install Date 4/20/2016		
Des	Make	Model	WP (psi)	Service	SN

Conductor, Planned?-N, 112ftKB

Casing Description Conductor	Wellbore Original Hole	Run Date 4/1/2016	Set Depth (MD) (ftKB) 112	Stick Up (ftKB) -37.0	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)
1	Casing Joint	20	18.375	169.00	K-55			75.00	37	112

Surface, Planned?-N, 831ftKB

Casing Description Surface	Wellbore Original Hole	Run Date 4/20/2016	Set Depth (MD) (ftKB) 831	Stick Up (ftKB) -34.2	Set Tension (kips)					
Centralizers 9			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	FMC UH-2 Wellhead	24	12.615	54.50	J-55		ST&C	2.88	34	37
1	Casing Pup Joint	13 3/8	12.615	54.50	J-55		ST&C	3.93	37	41
18	Casing Joint	13 3/8	12.615	54.50	J-55		ST&C	748.91	41	790
1	Float Collar	13 3/8	12.615	54.50	J-55		ST&C	1.50	790	791
1	Casing Joint	13 3/8	12.615	54.50	J-55		ST&C	37.83	791	829
1	Shoe	13 3/8	12.615	54.50	J-55		ST&C	1.80	829	831

Intermediate Casing 1, Planned?-N, 4,577ftKB

Casing Description Intermediate Casing 1		Wellbore Original Hole		Run Date 4/24/2016		Set Depth (MD) (ftKB) 4,577		Stick Up (ftKB) -36.5		Set Tension (kips)	
Centralizers 29						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	9 5/8	8.835	40.00	HCK-55		LT&C	0.63	37	37	
1	Pup Jt	9 5/8	8.835	40.00	HCK-55		LT&C	3.28	37	40	
107	Casing Joint	9 5/8	8.835	40.00	HCK-55		LT&C	4,452.18	40	4,493	
1	Float Collar	9 5/8	8.835	40.00	HCK-55		LT&C	1.49	4,493	4,494	
2	Casing Joint	9 5/8	8.835	40.00	HCK-55		LT&C	81.29	4,494	4,575	
1	Float Shoe	9 5/8	8.835	40.00	HCK-55		LT&C	1.60	4,575	4,577	

Production Casing, Planned?-N, 13,995ftKB

Casing Description Production Casing	Wellbore Original Hole	Run Date 5/3/2016	Set Depth (MD) (ftKB) 13,995	Stick Up (ftKB) -36.7	Set Tension (kips)					
Centralizers 71			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	Casing Hanger	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	1.17	37	38
1	Casing Pup Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	4.26	38	42
203	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	8,382.00	42	8,424
1	Marker Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	4.75	8,424	8,429
131	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	5,397.66	8,429	13,826
1	Casing Pup Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	10.25	13,826	13,837
1	RSI	5 1/2	4.778	20.00		5 1/2	TXP BTC -S	6.67	13,837	13,843



Cement Summary

Surface Casing Cement

Well Name SALADO DRAW WE 23 FED P7 004H		Lease SD 23 FED P7		Field Name JENNINGS		Business Unit Mid-Continent	
Ground Elevation (ft) 3,165.00	Original RKB (ft) 3,197.60	Current RKB Elevation 3,197.60, 3/28/2016				Mud Line Elevation (ft)	Water Depth (ft)

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	Casing Pup Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	10.13	13,843	13,854
1	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	41.21	13,854	13,895
1	Casing Pup Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	9.87	13,895	13,905
1	Landing Collar	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	1.48	13,905	13,906
1	XRV Tool	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	2.20	13,906	13,908
1	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	42.65	13,908	13,951
1	Float Collar	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	2.41	13,951	13,953
1	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	38.95	13,953	13,992
1	Float Shoe	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	2.69	13,992	13,995

Surface Casing Cement, Casing, 4/20/2016 13:30

Cementing Start Date 4/20/2016		Cementing End Date 4/20/2016		Wellbore Original Hole	
Evaluation Method Returns to Surface		Cement Evaluation Results 102 bbls cmt to surface			

Comment
Performed cement job as follows:
Pressure tested lines to 3400 psi.
Pump 40 bbls of Spacer at 8.3 ppg.
Mix and pump 960 sxs (227 bbls) of Cement at 14.8 ppg.
Drop plug and displace cement with 122 bbls of 8.3 ppg Fresh Water.
Bumped plug with 515 psi over final circulating pressure.
Bled pressure off - floats held.

Details:
Full returns throughout job.
Final circulating pressure prior to bumping plug 340 psi at 2.1 bpm.
102 bbls of cement to surface.
Cement in place @ 15:18

1, 37.0-841.0ftKB

Top Depth (ftKB) 37.0	Bottom Depth (ftKB) 841.0	Full Return? Y	Vol Cement Ret (bbl) 102.0	Top Plug? Y	Bottom Plug? N
Initial Pump Rate (bbl/min) 5.4	Final Pump Rate (bbl/min) 2.5	Avg Pump Rate (bbl/min) 5.4	Final Pump Pressure (psi) 340.0	Plug Bump Pressure (psi) 845.0	
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	

Spacer

Fluid Type Spacer	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl) 40.0
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft ³ /sack)	Fluid Mix Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 8.33	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

Tail

Fluid Type Tail	Fluid Description	Quantity (sacks) 960	Class C	Volume Pumped (bbl) 227.0
Estimated Top (ftKB) 32.6	Estimated Bottom Depth (ftKB) 832.0	Percent Excess Pumped (%) 125.0	Yield (ft ³ /sack) 1.33	Fluid Mix Ratio (gal/sack) 6.37
Free Water (%)	Density (lb/gal) 14.80	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc



Cement Summary

Surface Casing Cement

Well Name SALADO DRAW WE 23 FED P7 004H		Lease SD 23 FED P7	Field Name JENNINGS	Business Unit Mid-Continent	
Ground Elevation (ft) 3,165.00	Original RKB (ft) 3,197.60	Current RKB Elevation 3,197.60, 3/28/2016		Mud Line Elevation (ft)	Water Depth (ft)

Displacement				
Fluid Type Displacement	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl) 120.0
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft ³ /sack)	Fluid Mix Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 8.33	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives		
Add	Type	Conc



Cement Summary

Intermediate Casing Cement

Well Name SALADO DRAW WE 23 FED P7 004H		Lease SD 23 FED P7	Field Name JENNINGS	Business Unit Mid-Continent	
Ground Elevation (ft) 3,165.00	Original RKB (ft) 3,197.60	Current RKB Elevation 3,197.60, 3/28/2016		Mud Line Elevation (ft)	Water Depth (ft)

Original Hole

Wellbore Name Original Hole	Directional Type Horizontal	Min Kick Off Depth (ftKB) 8,510.0	Vertical Section Direction (") 176.66
Hole Size (in)	Act Top (ftKB)	Act Btm (ftKB)	
17 1/2	32.6	841.0	
12 1/4	841.0	4,587.0	
8 3/4	4,587.0	14,002.0	

Multi-bowl, FMC on 4/20/2016 17:00

Sub-Type Multi-bowl	Install Date 4/20/2016				
Des	Make	Model	WP (psi)	Service	SN

Conductor, Planned?-N, 112ftKB

Casing Description Conductor	Wellbore Original Hole	Run Date 4/1/2016	Set Depth (MD) (ftKB) 112	Stick Up (ftKB) -37.0	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)
1	Casing Joint	20	18.375	169.00	K-55			75.00	37	112

Surface, Planned?-N, 831ftKB

Casing Description Surface	Wellbore Original Hole	Run Date 4/20/2016	Set Depth (MD) (ftKB) 831	Stick Up (ftKB) -34.2	Set Tension (kips)					
Centralizers 9			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	FMC UH-2 Wellhead	24	12.615	54.50	J-55		ST&C	2.88	34	37
1	Casing Pup Joint	13 3/8	12.615	54.50	J-55		ST&C	3.93	37	41
18	Casing Joint	13 3/8	12.615	54.50	J-55		ST&C	748.91	41	790
1	Float Collar	13 3/8	12.615	54.50	J-55		ST&C	1.50	790	791
1	Casing Joint	13 3/8	12.615	54.50	J-55		ST&C	37.83	791	829
1	Shoe	13 3/8	12.615	54.50	J-55		ST&C	1.80	829	831

Intermediate Casing 1, Planned?-N, 4,577ftKB

Casing Description Intermediate Casing 1		Wellbore Original Hole		Run Date 4/24/2016		Set Depth (MD) (ftKB) 4,577		Stick Up (ftKB) -36.5		Set Tension (kips)	
Centralizers 29						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	9 5/8	8.835	40.00	HCK-55		LT&C	0.63	37	37	
1	Pup Jt	9 5/8	8.835	40.00	HCK-55		LT&C	3.28	37	40	
107	Casing Joint	9 5/8	8.835	40.00	HCK-55		LT&C	4,452.18	40	4,493	
1	Float Collar	9 5/8	8.835	40.00	HCK-55		LT&C	1.49	4,493	4,494	
2	Casing Joint	9 5/8	8.835	40.00	HCK-55		LT&C	81.29	4,494	4,575	
1	Float Shoe	9 5/8	8.835	40.00	HCK-55		LT&C	1.60	4,575	4,577	

Production Casing, Planned?-N, 13,995ftKB

Casing Description Production Casing	Wellbore Original Hole	Run Date 5/3/2016	Set Depth (MD) (ftKB) 13,995			Stick Up (ftKB) -36.7		Set Tension (kips)		
Centralizers 71					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	Casing Hanger	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	1.17	37	38
1	Casing Pup Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	4.26	38	42
203	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	8,382.00	42	8,424
1	Marker Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	4.75	8,424	8,429
131	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	5,397.66	8,429	13,826
1	Casing Pup Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	10.25	13,826	13,837
1	RSI	5 1/2	4.778	20.00		5 1/2	TXP BTC -S	6.67	13,837	13,843



Cement Summary

Intermediate Casing Cement

Well Name SALADO DRAW WE 23 FED P7 004H		Lease SD 23 FED P7		Field Name JENNINGS		Business Unit Mid-Continent	
Ground Elevation (ft) 3,165.00	Original RKB (ft) 3,197.60	Current RKB Elevation 3,197.60, 3/28/2016				Mud Line Elevation (ft)	Water Depth (ft)

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	Casing Pup Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	10.13	13,843	13,854
1	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	41.21	13,854	13,895
1	Casing Pup Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	9.87	13,895	13,905
1	Landing Collar	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	1.48	13,905	13,906
1	XRV Tool	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	2.20	13,906	13,908
1	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	42.65	13,908	13,951
1	Float Collar	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	2.41	13,951	13,953
1	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	38.95	13,953	13,992
1	Float Shoe	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC-S	2.69	13,992	13,995

Intermediate Casing Cement, Casing, 4/24/2016 09:00

Cementing Start Date 4/24/2016		Cementing End Date 4/24/2016		Wellbore Original Hole	
Evaluation Method Returns to Surface		Cement Evaluation Results 160 bbls cmt to surface			
Comment					

1, 37.0-4,587.0ftKB

Top Depth (ftKB) 37.0	Bottom Depth (ftKB) 4,587.0	Full Return? Y	Vol Cement Ret (bbl) 160.0	Top Plug? Y	Bottom Plug? N
Initial Pump Rate (bbl/min) 3.3	Final Pump Rate (bbl/min) 2.2	Avg Pump Rate (bbl/min) 5.1		Final Pump Pressure (psi) 1,200.0	Plug Bump Pressure (psi) 1,700.0
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

Spacer

Fluid Type Spacer	Fluid Description Dyed Spacer	Quantity (sacks)	Class	Volume Pumped (bbl) 40.0
Estimated Top (ftKB) 32.6	Estimated Bottom Depth (ftKB) 32.6	Percent Excess Pumped (%)	Yield (ft³/sack)	Fluid Mix Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 8.30	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

Lead

Fluid Type Lead	Fluid Description 50:50 POZ/C	Quantity (sacks) 1,055	Class C	Volume Pumped (bbl) 456.0
Estimated Top (ftKB) 32.6	Estimated Bottom Depth (ftKB) 4,587.0	Percent Excess Pumped (%) 150.0	Yield (ft³/sack) 2.43	Fluid Mix Ratio (gal/sack) 13.77
Free Water (%)	Density (lb/gal) 11.90	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

Tail

Fluid Type Tail	Fluid Description C-Neat	Quantity (sacks) 462	Class C	Volume Pumped (bbl) 109.0
Estimated Top (ftKB) 3,587.0	Estimated Bottom Depth (ftKB) 4,587.0	Percent Excess Pumped (%) 85.0	Yield (ft³/sack) 1.33	Fluid Mix Ratio (gal/sack) 6.35
Free Water (%)	Density (lb/gal) 14.80	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc



Cement Summary

Intermediate Casing Cement

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Ground Elevation (ft) 3,165.00	Original RKB (ft) 3,197.60	Current RKB Elevation 3,197.60, 3/28/2016		Mud Line Elevation (ft)	Water Depth (ft)

Displacement				
Fluid Type Displacement	Fluid Description Displacement	Quantity (sacks)	Class	Volume Pumped (bbl) 340.0
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft ³ /sack)	Fluid Mix Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 8.30	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives		
Add	Type	Conc



Cement Summary

Production Casing Cement

Well Name SALADO DRAW WE 23 FED P7 004H		Lease SD 23 FED P7		Field Name JENNINGS		Business Unit Mid-Continent	
Ground Elevation (ft) 3,165.00	Original RKB (ft) 3,197.60	Current RKB Elevation 3,197.60, 3/28/2016				Mud Line Elevation (ft)	Water Depth (ft)

Original Hole				
Wellbore Name Original Hole		Directional Type Horizontal	Min Kick Off Depth (ftKB) 8,510.0	Vertical Section Direction (°) 176.66
Hole Size (in)		Act Top (ftKB)		Act Btm (ftKB)
17 1/2		32.6		841.0
12 1/4		841.0		4,587.0
8 3/4		4,587.0		14,002.0

Multi-bowl, FMC on 4/20/2016 17:00					
Sub-Type Multi-bowl			Install Date 4/20/2016		
Des	Make	Model	WP (psi)	Service	SN

Conductor, Planned?-N, 112ftKB										
Casing Description Conductor		Wellbore Original Hole		Run Date 4/1/2016		Set Depth (MD) (ftKB) 112		Stick Up (ftKB) -37.0		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)
1	Casing Joint	20	18.375	169.00	K-55			75.00	37	112

Surface, Planned?-N, 831ftKB										
Casing Description Surface		Wellbore Original Hole		Run Date 4/20/2016		Set Depth (MD) (ftKB) 831		Stick Up (ftKB) -34.2		Set Tension (kips)
Centralizers 9						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	FMC UH-2 Wellhead	24	12.615	54.50	J-55		ST&C	2.88	34	37
1	Casing Pup Joint	13 3/8	12.615	54.50	J-55		ST&C	3.93	37	41
18	Casing Joint	13 3/8	12.615	54.50	J-55		ST&C	748.91	41	790
1	Float Collar	13 3/8	12.615	54.50	J-55		ST&C	1.50	790	791
1	Casing Joint	13 3/8	12.615	54.50	J-55		ST&C	37.83	791	829
1	Shoe	13 3/8	12.615	54.50	J-55		ST&C	1.80	829	831

Intermediate Casing 1, Planned?-N, 4,577ftKB										
Casing Description Intermediate Casing 1		Wellbore Original Hole		Run Date 4/24/2016		Set Depth (MD) (ftKB) 4,577		Stick Up (ftKB) -36.5		Set Tension (kips)
Centralizers 29						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	9 5/8	8.835	40.00	HCK-55		LT&C	0.63	37	37
1	Pup Jt	9 5/8	8.835	40.00	HCK-55		LT&C	3.28	37	40
107	Casing Joint	9 5/8	8.835	40.00	HCK-55		LT&C	4,452.18	40	4,493
1	Float Collar	9 5/8	8.835	40.00	HCK-55		LT&C	1.49	4,493	4,494
2	Casing Joint	9 5/8	8.835	40.00	HCK-55		LT&C	81.29	4,494	4,575
1	Float Shoe	9 5/8	8.835	40.00	HCK-55		LT&C	1.60	4,575	4,577

Production Casing, Planned?-N, 13,995ftKB										
Casing Description Production Casing		Wellbore Original Hole		Run Date 5/3/2016		Set Depth (MD) (ftKB) 13,995		Stick Up (ftKB) -36.7		Set Tension (kips)
Centralizers 71						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	Casing Hanger	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	1.17	37	38
1	Casing Pup Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	4.26	38	42
203	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	8,382.00	42	8,424
1	Marker Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	4.75	8,424	8,429
131	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	5,397.66	8,429	13,826
1	Casing Pup Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	10.25	13,826	13,837
1	RSI	5 1/2	4.778	20.00		5 1/2	TXP BTC -S	6.67	13,837	13,843



Cement Summary

Production Casing Cement

Well Name SALADO DRAW WE 23 FED P7 004H		Lease SD 23 FED P7		Field Name JENNINGS		Business Unit Mid-Continent	
Ground Elevation (ft) 3,165.00	Original RKB (ft) 3,197.60	Current RKB Elevation 3,197.60, 3/28/2016				Mud Line Elevation (ft)	Water Depth (ft)

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	Casing Pup Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	10.13	13,843	13,854
1	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	41.21	13,854	13,895
1	Casing Pup Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	9.87	13,895	13,905
1	Landing Collar	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	1.48	13,905	13,906
1	XRV Tool	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	2.20	13,906	13,908
1	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	42.65	13,908	13,951
1	Float Collar	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	2.41	13,951	13,953
1	Casing Joint	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	38.95	13,953	13,992
1	Float Shoe	5 1/2	4.778	20.00	P-110IC	5 1/2	TXP BTC -S	2.69	13,992	13,995

Production Casing Cement, Casing, 5/3/2016 07:45

Cementing Start Date 5/3/2016		Cementing End Date 5/3/2016	Wellbore Original Hole
Evaluation Method Lift Pressure		Cement Evaluation Results FCP of 1,575 psi. Expected lift pressure of 1,572 psi.	

Comment
Test surface lines to 6,500 psi. Pump: 30 bbl of 10.0 ppg mudpush 301 bbl (630 sxs) of 11.5 ppg lead 1 cement slurry 250 bbl (960 sxs) of 12.5 ppg lead 2 cement slurry 47 bbl (109 sxs) of 15.0 ppg tail cement slurry 308 bbl of Displacement (8.3 FW) Held 500 psi over for 5 min. Bled back 2.5 bbls; floats held. FCP 1,575 psi @ 3.5 bpm.

1, 3,850.0-13,991.0ftKB

Top Depth (ftKB) 3,850.0	Bottom Depth (ftKB) 13,991.0	Full Return? N	Vol Cement Ret (bbl) 0.0	Top Plug? Y	Bottom Plug? Y
Initial Pump Rate (bbl/min) 4.4	Final Pump Rate (bbl/min) 3.5	Avg Pump Rate (bbl/min) 4		Final Pump Pressure (psi) 1,575.0	
Pipe Reciprocated? N	Reciprocation Stroke Length (ft)	Reciprocation Rate (spm)		Pipe Rotated? N	
Depth Tagged (MD) (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)		Drill Out Diameter (in)	
				Drill Out Date	

Spacer

Fluid Type Spacer	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl) 30.0
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft ³ /sack)	Fluid Mix Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 10.00	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

Lead

Fluid Type Lead	Fluid Description	Quantity (sacks) 630	Class	Volume Pumped (bbl) 301.0
Estimated Top (ftKB) 3,850.0	Estimated Bottom Depth (ftKB) 8,545.0	Percent Excess Pumped (%) 35.0	Yield (ft ³ /sack) 2.69	Fluid Mix Ratio (gal/sack) 15.76
Free Water (%) 0.00	Density (lb/gal) 11.50	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi) 50.0

Cement Fluid Additives

Add	Type	Conc

Lead

Fluid Type Lead	Fluid Description	Quantity (sacks) 960	Class	Volume Pumped (bbl) 250.0
Estimated Top (ftKB) 8,545.0	Estimated Bottom Depth (ftKB) 13,100.0	Percent Excess Pumped (%) 50.0	Yield (ft ³ /sack) 1.62	Fluid Mix Ratio (gal/sack) 8.62
Free Water (%) 0.00	Density (lb/gal) 12.50	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi) 50.0

Cement Fluid Additives

Add	Type	Conc



Cement Summary

Production Casing Cement

Well Name SALADO DRAW WE 23 FED P7 004H		Lease SD 23 FED P7	Field Name JENNINGS	Business Unit Mid-Continent	
Ground Elevation (ft) 3,165.00	Original RKB (ft) 3,197.60	Current RKB Elevation 3,197.60, 3/28/2016		Mud Line Elevation (ft)	Water Depth (ft)

Tail				
Fluid Type Tail	Fluid Description	Quantity (sacks) 109	Class	Volume Pumped (bbl) 47.0
Estimated Top (ftKB) 13,100.0	Estimated Bottom Depth (ftKB) 14,002.0	Percent Excess Pumped (%)	Yield (ft ³ /sack) 2.18	Fluid Mix Ratio (gal/sack) 9.55
Free Water (%) 0.00	Density (lb/gal) 15.00	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi) 50.0

Cement Fluid Additives		
Add	Type	Conc

Displacement				
Fluid Type Displacement	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl) 308.0
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft ³ /sack)	Fluid Mix Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 8.30	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives		
Add	Type	Conc