OCD-HOBBS

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD

JUN 29 2015

RECEIVED

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMLC065863

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

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

8. Well Name and No.
ZIA AGI 1

2. Name of Operator
DCP MIDSTREAM, LP
Contact: DALE T LITTLEJOHN
E-Mail: dale@geolex.com

9. API Well No.
30-025-42208

3a. Address
370 17TH STREET SUITE 2500
DENVER, CO 80208-5406

3b. Phone No. (include area code)
Ph: 505-842-8000

10. Field and Pool, or Exploratory
EXPL BRUSHY/CHERRY CANYON

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 19 T19S R32E ~~2305FNL 750FWL~~
2100FSL & 950FWL

11. County or Parish, and State
LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Drilling Operations
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The Zia AGI #1 injection borehole was drilled from below the 9.625-inch intermediate casing TD at 4,950 ft (4,857 TVD) to the well TD of 6,360 feet (6,192 TVD). Drilling was terminated in the Brushy Canyon Formation on January 25, 2015. Several small isolated H2S detections were encountered during drilling of the injection borehole, as the drill bit cut through the proposed injection zone and during circulation prior to casing installation. None of the H2S concentrations exceeded 3.75 ppm, which is below the mud logging instrumentation (Bloodhound) error limit (+/- 5.0 ppm). H2S concentrations are shown on the mud log (attached).

The injection open-hole was logged from the intermediate casing at 4,889 ft (4,799 TVD) to TD on January 26, 2015 (six logs attached). Caliper logs for the injection (8 ?-inch) borehole indicates a clean hole with no significant washouts from 4,950 ft to TD. The top of the injection zone at the bottom portion of the Cherry Canyon Formation was determined to be at a depth of 5,540 ft

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #299295 verified by the BLM Well Information System
For DCP MIDSTREAM, LP, sent to the Hobbs
Committed to AFMSS for processing by LINDA JIMENEZ on 05/08/2015 ()

Name *(Printed/Typed)* DALE T LITTLEJOHN — Title GEOLEX CONSULTANT TO DCP

Signature (Electronic Submission) — Date 04/24/2015

ACCEPTED FOR RECORD

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____ Title _____ Date JUN 24 2015

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Office BUREAU OF LAND MANAGEMENT CARLSBAD FIELD OFFICE

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

JUL 17 2015

Additional data for EC transaction #299295 that would not fit on the form

32. Additional remarks, continued

(5,412 TVD) and the Brushy Canyon Formation was determined to be 5,775 ft (5,635 TVD) based on open-hole geophysical logs and the mud log.

The open-hole geophysical logs and mud log were also used to determine the best locations for perforation intervals in the proposed injection zone. Sixty of the locations between 5,550 and 6,254 ft (5,422 - 6,090 TVD) were selected for sidewall coring, which was performed immediately following the completion of the open-hole logging.

The Zia AGI #1 production casing was installed on January 29, 2015. The injection-casing shoe was set at 6,344 ft (6,176 TVD) in the Brushy Canyon Formation (pipe tally attached).

The injection casing for the Zia AGI #1 was cemented in two stages. A diverter valve tool (DVT) was placed at a depth of 4,578 ft (4,503 TVD) to allow uniform cement placement (Cement Reports Attached). The first stage, from 6,342 ft (6,174 TVD) to the DVT required extra EverCreteTM cement so additional testing was performed prior to cementing. Cementing was started with 16 bbl of 13.2 ppg cement followed by 42 bbls of EverCreteTM cement (16.1 ppg). The DVT dart was dropped which opened the DV tool and pushed mud to the surface with no cement returns to the surface. Wait on cement time for the first stage was more than 24 hours while continuously circulating fluid through DVT to surface to clean out second stage annulus space.

The second stage (DVT - surface) was composed of 144 bbls of 12.6 ppg lead cement followed by 16 bbls of tail cement with a yield of 1.98 cuft/sack. The DVT was closed and cement was pumped to the surface with 20 bbls returned to the surface. Wait on cement time for the second stage was more than 24 hours (more than 30 days). The cement returns were not witnessed by the BLM. Cement did not fall back and the injection casing remained cemented to surface (stage 1 and 2 cement reports attached).

The cement bond logs were run on April 19, 2015 (cement bond logs attached). They indicate good cement bond from TD to 4,694 ft (4,614 TVD), which is approximately 195 feet above the 9.625-inch intermediate casing shoe depth of 4,889 ft (4,799 TVD). A few areas of isolated questionable bond are present between the 7-inch and 9.625-inch casing at 3,916 to 3,215 ft (3,865 to 3,192 TVD), but they are within areas of very good cement bond behind the 9.625-inch casing.

A pressure test was performed on the 7-inch injection casing on April 20, 2015 (pressure test results attached). The chart indicates that the pressure was increased from 0 to 2,500 psi and held for 30 minutes with no decrease in pressure indicated prior to bleeding off the pressure back to 0 psi.

Schlumberger

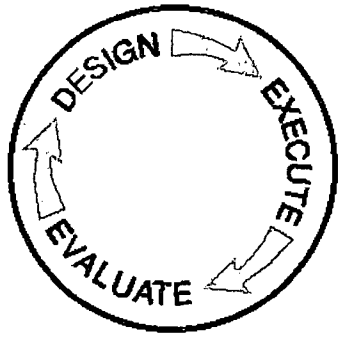
CemCADE* well cementing recommendation for multi-stage 7" Production Casing

1st Stage – Final Design with TD @ 6,360.0 feet & Stage Collar @ 4,578.0 feet

Operator	**: Parsons Brinckerhoff**	**Well**	**: ZIA #1**
Country	: USA	Field	:
State	: NM		

Prepared for	**: Russell Brentley**	**Location**	**: DCP Zia AGI #1**
Proposal No.	:	Service Point	: Hobbs, NM
Date Prepared	: 01-30-2015	Business Phone	: 575-393-6186
		FAX No.	:

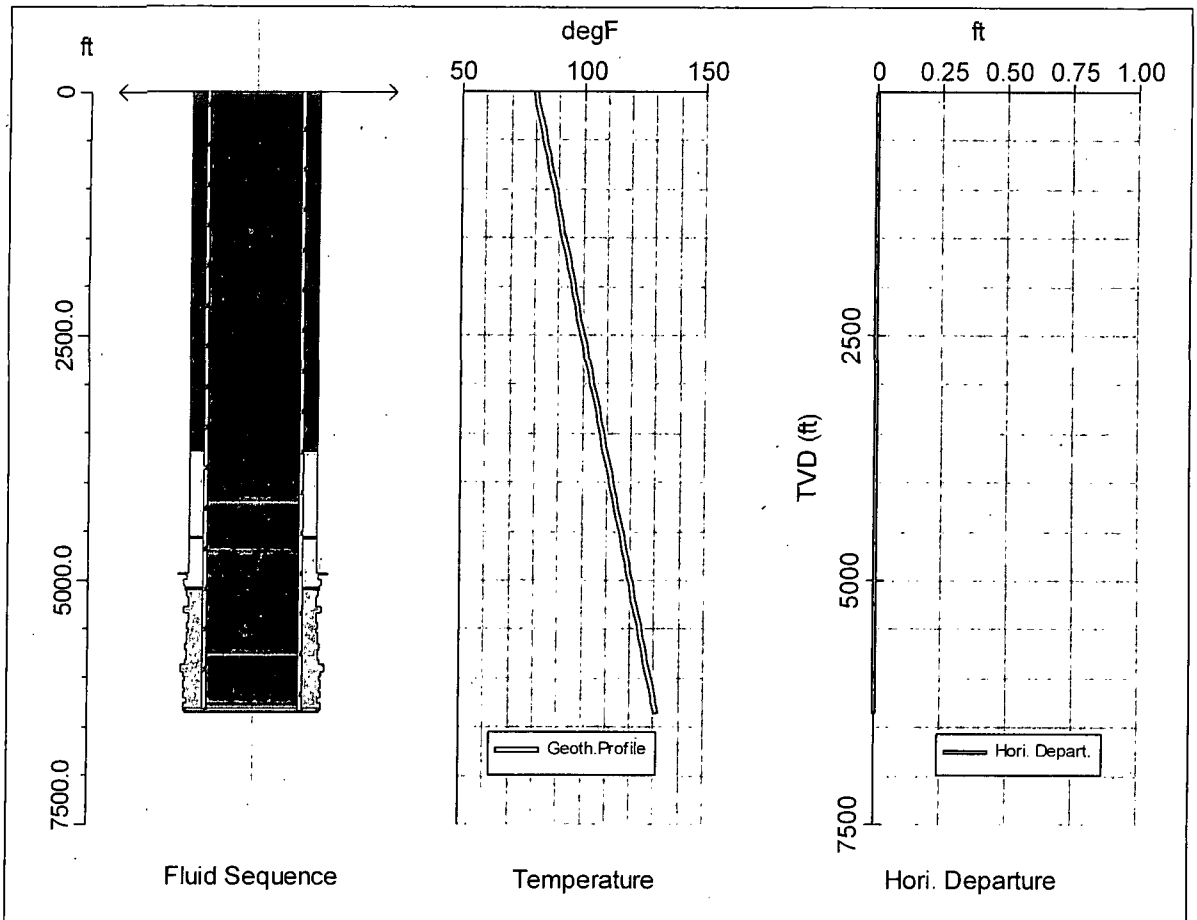
Prepared by : Peter Igharoro
Phone : 575-390-4865
E-Mail Address : igharoro4@slb.com



* Mark of Schlumberger

Section 1: Well Description

Configuration : **Casing**
Stage : **1st of 2**
Rig Type : **Land**
Mud Line : **0.0 ft**
Total MD : **6360.0 ft**
BHST : **131 degF**
Bit Size : **8 1/2 in**
1st Stage TXI Lead : **68sxs, 13.2ppg TXI Cement Blend (Yield = 1.35t^3/Sk; TOC = 4,574.0ft)**
1st Stage EverCRETE : **287sxs, 16.0ppg EverCRETE Cement Blend (Yield = 1.12t^3/Sk; TOC = 5,113.5ft)**



3	12.0ppg MPE Spacer	25.0 bbl	12.00 lb/gal	Herschel : k	= 2.12E-2 lbf.s^n/ft2	n = 0.352	Ty = 9.42 lbf/100ft2
4	13.2ppg Lead FB - Stg1	16.5 bbl	13.20 lb/gal	Herschel : k	= 1.33E-1 lbf.s^n/ft2	n = 0.275	Ty = 1.13 lbf/100ft2
5	16.0ppg E/CRETE Tail - Stg1	42.0 bbl	16.00 lb/gal	Bingham: PV	= 230.714 cP	Ty = 13.38 lbf/100ft2	
	Fresh Water	40.0 bbl	8.32 lb/gal	Newtonian: Visco.	= 1.452 cP		
	9.3ppg Loc.WBM	200.9 bbl	9.30 lb/gal	Herschel : k	= 3.78E-5 lbf.s^n/ft2	n = 0.945	Ty = 0.69 lbf/100ft2

Total Depth = 6360.0 ft Top of Cement = 4574.0 ft

Client	: Parsons Brinckerhoff		Well	: ZIA #1	
String	: Production Casing		District	: Hobbs, NM	
Country	: USA		Loadcase	: 7" Production Casing - Stg1 (Revised)	

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Previous String			
MD (ft)	OD (in)	Weight (lb/ft)	ID (in)
4940.0	9 5/8	40.0	8.835

1st Stage Collar : 4578.0 ft
Landing Collar MD : 6295.0 ft
Casing/liner Shoe MD : 6344.0 ft

Casing/Liner								
MD (ft)	OD (in)	Joint (ft)	Weight (lb/ft)	ID (in)	Grade	Collapse (psi)	Burst (psi)	Thread
318.6	7	39.9	29.7	6.276	HCL-80	5410	7240	LTC
5305.6	7	40.2	26.0	6.276	HCL-80	4870	6210	LTC
5615.3	7	44.2	26.0	6.276	28 Cr	4870	6210	Vam Top
6344.0	7	40.5	26.0	6.276	HCL-80	5410	7240	LTC

Mean OH Diameter : 8.850 in
Mean Annular Excess : 16.0 %
Mean OH Equivalent Diameter : 9.108 in
Total OH Volume : 114.4 bbl (including excess)

Caliper and Hole Size Data			
MD (ft)	Caliper (in)	Excess (%)	Equiv. Diam. (in)
4950.0	9.826	12.5	10.125
5005.0	8.673	12.5	8.860
5060.0	9.094	12.5	9.324
5115.0	8.991	12.5	9.210
5170.0	8.649	12.5	8.834
5225.0	8.514	12.5	8.684
5280.0	8.466	12.5	8.632
5335.0	9.027	12.5	9.249
5390.0	8.537	12.5	8.711
5445.0	8.525	12.5	8.698
5500.0	8.681	12.5	8.869
5555.0	8.537	12.5	8.711
5610.0	8.657	12.5	8.842
5665.0	8.728	12.5	8.921
5720.0	8.959	12.5	9.175
5775.0	8.641	12.5	8.825
5830.0	8.744	12.5	8.939
5885.0	8.919	12.5	9.131
5940.0	9.420	12.5	9.681
5995.0	9.051	12.5	9.276
6050.0	8.927	12.5	9.140
6105.0	9.134	12.5	9.367
6160.0	8.943	12.5	9.157
6215.0	9.094	12.5	9.324
6270.0	8.693	12.5	8.882
6325.0	9.170	12.5	9.406
6344.0	9.170	12.5	9.407
6360.0	9.170	0.0	9.170

The Well is considered VERTICAL

Formation Data				
MD (ft)	Frac. (psi/ft)	Pore (psi/ft)	Name	Lithology
6360.0	0.700	0.416		Sandstone

Geothermal Temperature Profile			
MD (ft)	TVD (ft)	Temperature (degF)	Gradient (degF/100ft)
0.0	0.0	80	0.0
5050.0	5050.0	120	0.8
6200.0	6200.0	130	0.8
6360.0	6360.0	131	0.8

Section 2: Fluid Sequence

Job Objectives: Cement 1st Stage 7" Production Casing from Casing Shoe @ 6344ft to SC @ 4578ft with16% OH annular excess over Caliper Log.

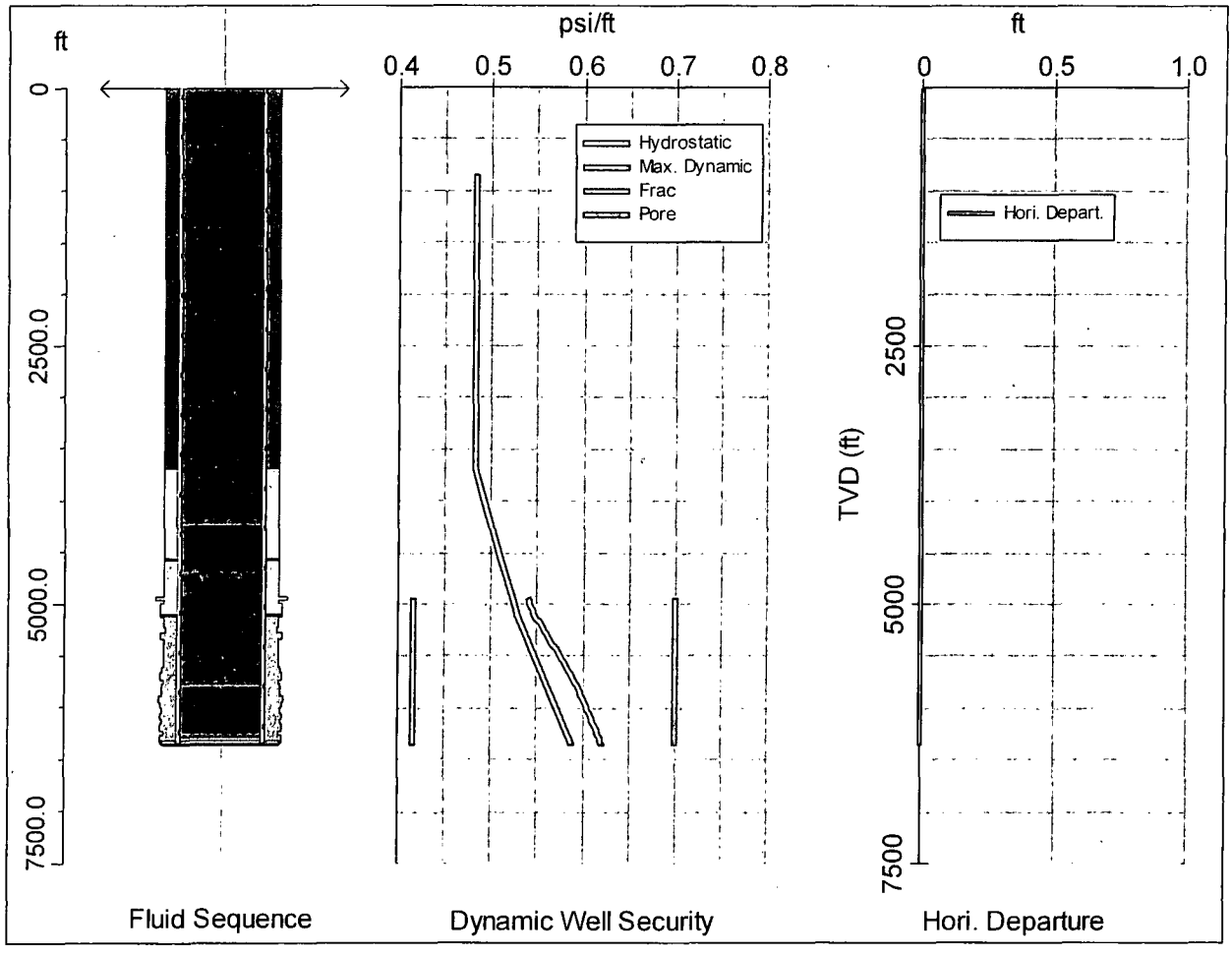
Original fluid	9.3ppg Loc.WBM	9.30 lb/gal	
	k : 3.78E-5 lbf.s^n/ft2	n : 0.945	Ty : 0.69 lbf/100ft2
Displacement Volume	240.9 bbl		
Total Volume	324.4 bbl		
TOC	4574.0 ft		
1st stage collar	4578.0 ft		

Fluid Sequence							
Name	Volume (bbl)	Ann. Len (ft)	Top (ft)	Density (lb/gal)			Rheology
12.0ppg MPE Spacer	25.0	885.7	3688.3	12.00	k:2.12E-2 lbf.s^n/ft2	n:0.352	Ty:9.42 lbf/100ft2
13.2ppg Lead FB - Stg1	16.5	539.5	4574.0	13.20	k:1.33E-1 lbf.s^n/ft2	n:0.275	Ty:1.13 lbf/100ft2
16.0ppg E/CRETE Tail - Stg1	42.0	1230.5	5113.5	16.00	Pv:230.714 cP		Ty:13.38 lbf/100ft2
Fresh Water	20.0		5772.3	8.32	viscosity:1.452 cP		
9.3ppg Loc.WBM	40.0		4726.9	9.30	k:3.78E-5 lbf.s^n/ft2	n:0.945	Ty:0.69 lbf/100ft2
Fresh Water	20.0		4204.2	8.32	viscosity:1.452 cP		
9.3ppg Loc.WBM	160.9		0.0	9.30	k:3.78E-5 lbf.s^n/ft2	n:0.945	Ty:0.69 lbf/100ft2

Client	:	Parsons Brinckerhoff	Well	:	ZIA #1
String	:	Production Casing	District	:	Hobbs, NM
Country	:	USA	Loadcase	:	7" Production Casing - Stg1 (Revised)

Schlumberger

Static Security Checks :		
Frac	714 psi	at 6344.0 ft
Pore	530 psi	at 4940.0 ft
Collapse	4157 psi	at 5615.3 ft
Burst	6210 psi	at 3688.3 ft
Csg.Pump out	58 ton	
Check Valve Diff Press	698 psi	



Client	: Parsons Brinckerhoff		Well	: ZIA #1	
String	: Production Casing,		District	: Hobbs, NM	
Country	: USA		Loadcase	: 7" Production Casing - Stg1 (Revised)	

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Section 3: Pumping Schedule

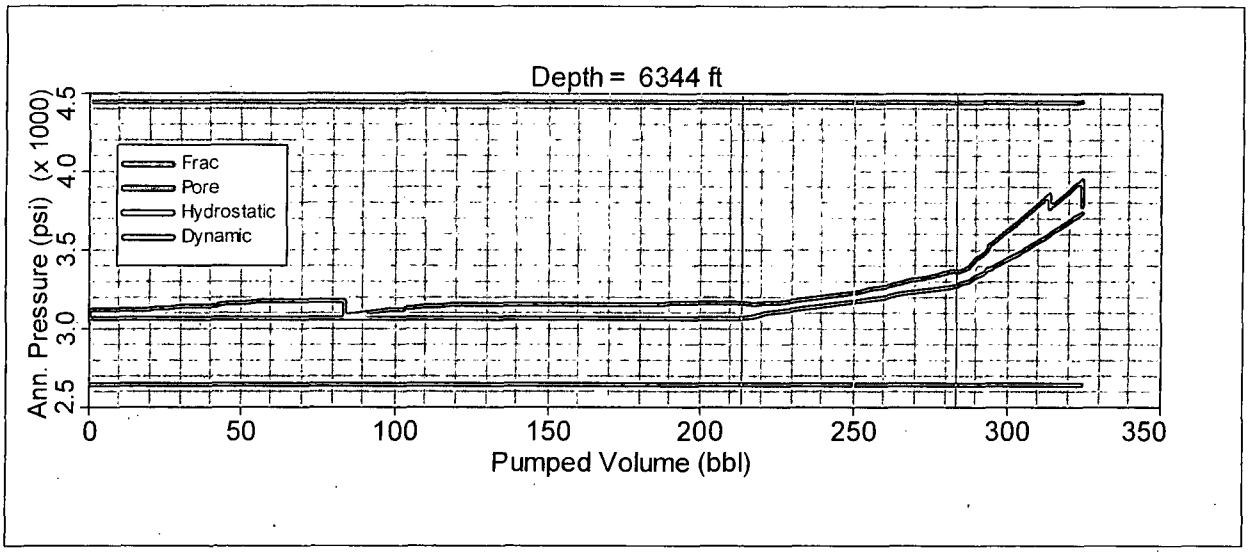
Note: Well MUST BE circulated at least twice Bottoms up prior to Job execution with casing on bottom

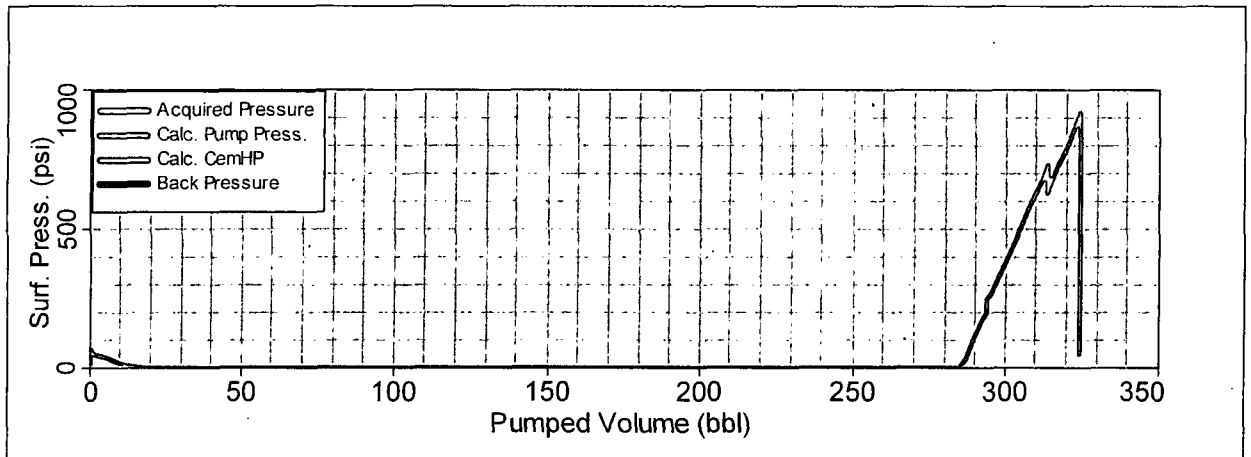
Pumping Schedule

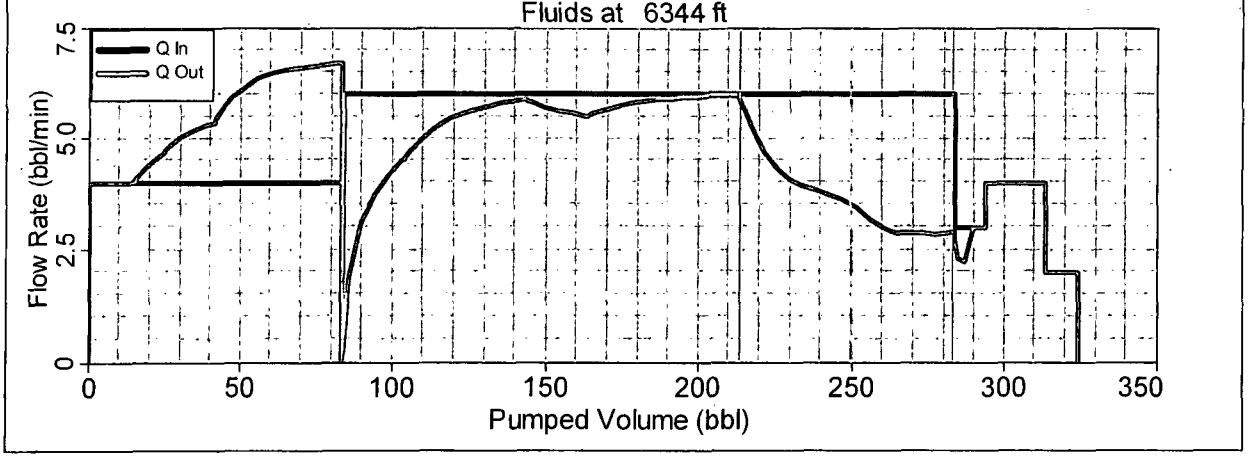
Name	Flow Rate (bbl/min)	Volume (bbl)	Stage Time (min)	Cum.Vol (bbl)	Inj. Temp. (degF)	Comments
Fresh Water	0.0	0.0	0.0	0.0	80	Fill-up lines with Fresh Water
Fresh Water	0.0	0.0	10.0	0.0	80	Pressure Test line to 300psi (low0 & 5000psi (high)
Fresh Water	0.0	0.0	0.0	0.0	80	Bleed-off Test Pressure
Fresh Water	0.0	0.0	0.0	0.0	80	Switch Back to Rig Pumps to Continue Circulation
Pause	0.0	0.0	0.0	0.0	80	SLB to Batch Mix 212sxs, 16.0ppg EverCRETE Slurry
Pause	0.0	0.0	0.0	0.0	80	Switch Line back to SLB Pump after Slurry Batch Mix
12.0ppg MPE Spacer	4.0	25.0	6.3	25.0	80	Mix & Pump 12.0ppg MudPUSH Expres* Spacer
13.2ppg Lead FB - Stg1	4.0	16.5	4.1	16.5	80	Mix & Pump 68sxs, 13.2ppg 1st Stage TXI Lead Slurry
16.0ppg E/CRETE Tail - Stg1	4.0	42.0	10.5	42.0	80	Pump 212sxs, 16.0ppg 1st Stage EverCRETE Slurry
Pause	0.0	0.0	10.0	0.0	80	Shut-down & Drop 1st Stage Wiper Plug
Fresh Water	6.0	20.0	3.3	20.0	80	Start Displacement with Fresh Water Behind
9.3ppg Loc.WBM	6.0	40.0	6.7	40.0	80	Continue to Displace with 9.3ppg Location WB Mud
Fresh Water	6.0	20.0	3.3	20.0	80	Pump Fresh Water + Green Dye across SC @ 4578ft
9.3ppg Loc.WBM	6.0	120.0	20.0	120.0	80	Continue to Displace with 9.3ppg Location WB Mud
9.3ppg Loc.WBM	3.0	10.0	3.3	130.0	80	Reduce Rate Prior to Pressure Catch-up
9.3ppg Loc.WBM	4.0	20.0	5.0	150.0	80	Increase Rate afterPressure Catch-up
9.3ppg Loc.WBM	2.0	10.9	5.4	160.9	80	Reduce Rate Prior to Bump 1st Stage Wiper Plug
Pause	0.0	0.0	10.0	0.0	80	Bump 1st Stage Wiper Plug with 500psi Over
Pause	0.0	0.0	0.0	0.0	80	Bleed-off Bump Pressure & Check Float is holding
Pause	0.0	0.0	30.0	0.0	80	Client to Proceed to Open SC @ 4,578.0ft
Pause	0.0	0.0	60.0	0.0	80	SLB to Circulate Cement Clean from SC to Surface
Pause	0.0	0.0	0.0	0.0	80	SLB to Shut-down & Switch to Rig Pump
Shut-In	0.0	0.0	0.0	0.0	80	Rig to Continue to Circulate, while WOC 24Hrs
		Total	**03:07 hr:mn**	**324.4 bbl**		

Dynamic Security Checks :		
Frac	502 psi	at 6344.0 ft
Pore	332 psi	at 4940.0 ft
Collapse	4157 psi	at 5615.3 ft
Burst	5307 psi	at 3688.3 ft

Temperature Results			
BHCT	111 degF	Simulated Max HCT	131 degF
Simulated BHCT	120 degF	Max HCT Depth	6344.0 ft
CT at TOC	117 degF	Max HCT Time	00:00:20 hr:mn:sc
Static temperatures :			
At Time	(hr:mn)	00:00 hr:mn	Geo. Temp.
Top of Cement	(degF)	117 degF	117 degF
Bottom Hole	(degF)	125 degF	131 degF


Depth = 6344 ft
Ann. Pressure (psi) (x 1000)
2.5
3.0
3.5
4.0
4.5
Frac
Pore
Hydrostatic
Dynamic
0
50
100
150
200
250
300
350
Pumped Volume (bbl)


Surf. Press. (psi)
0
500
1000
Acquired Pressure
Calc. Pump Press.
Calc. CemHP
Back Pressure
0
50
100
150
200
250
300
350
Pumped Volume (bbl)


Fluids at 6344 ft
Flow Rate (bbl/min)
0
2.5
5.0
7.5
Q In
Q Out
0
50
100
150
200
250
300
350
Pumped Volume (bbl)

Section 4: Fluid Descriptions

Fresh Water DESIGN

Fluid No: 1
Rheo. Model : NEWTONIAN
At temp. : 80 degF

Density : 8.32 lb/gal
Viscosity : 1.452 cP
Gel Strength : (lbf/100ft2)

WASH
Wash Type : Water
Mud Type : WBM
Water/Wash (vol.): 100.0 %
Job volume : 40.0 bbl

BASE FLUID
Type : Fresh water
Density : 8.32 lb/gal

Parsons - Zia 1 Production Mud

Fluid No: 2

Fluid No	**: HNM15C044003**	Client	**: Parsons Brinckerhoff**	Location / Rig	**: Precision 107**
Date	: Jan-26-2015	Well Name	**: Zia 1**	Field	:

Signatures
P. Quintana, LT1
C.Okam LTT

Job Type	**Production**	Depth	**6200.0 ft**	TVD	**5874.0 ft**
BHST	**128 degF**	BHCT	**115 degF**	BHP	**3424 psi**
Starting Temp.	(degF)	Time to Temp.	(hr:mn)	Heating Rate	(degF/min)
Starting Pressure	(psi)	Time to Pressure	(hr:mn)	Schedule	( )

Composition

Density	**9.30 lb/gal**	**Type**	**WBM**

Rheology

(rpm)	(deg)
300	2.0
200	1.0
100	1.0
60	1.0
30	1.0
6	1.0
3	1.0

Temperature	115 degF
Pressure	(psi)

Viscosity: 1.267 cP
Yield Point: 0.73 lbf/100ft2

Parsons - Zia 1 Production MPE

Fluid No: 3

Fluid No : **HNM15C044002**	Client	: **Parsons Brinckerhoff**	Location / Rig	: **Precision 107**	Signatures: K. Hamburg
Date : Jan-28-2015	Well Name	: **Zia 1**	Field	:	C.Okam LTT

Job Type	**Production**	Depth	**6200.0 ft**	TVD	**5874.0 ft**
BHST	**128 degF**	BHCT	**115 degF**	BHP	**3424 psi**
Starting Temp.	(degF)	Time to Temp.	(hr:mn)	Heating Rate	(degF/min)
Starting Pressure	(psi)	Time to Pressure	(hr:mn)	Schedule	( )

Composition

Density	**12.00 lb/gal**	**Type**	**Others**	**Mix Water/Spacer (vol)**	**86.3 %**
Porosity	86.7 %	Solid Vol. Fraction	13.3 %		

Code	Concentration	Component	*Lot Number*
Fresh water			
B389	0.800 lb/bbl of spacer	Viscosifier	4H0791W
D047	0.200 gal/bbl of spacer	Antifoam	TU4E0313A1
D031	200.08 lb/bbl of spacer	weight agent	

Rheology

(rpm)	(deg)
300	28.0
200	25.0
100	22.0
60	20.0
30	18.5
6	14.5
3	13.0

Client	: Parsons Brinckerhoff	Well	: ZIA #1		Schlumberger
String	: Production Casing	District	: Hobbs, NM		
Country	: USA	Loadcase	: 7" Production Casing - Stg1 (Revised)		

Parson Zia #1 1st Stage Lead Field Blend

Fluid No: 4

						Signatures
Fluid No	**:HNM15C042005**	Client	: **Parsons Brinkerhoff**	Location / Rig	: **PRECISION 107**	Cwhite LT1
Date	: Jan-24-2015	Well Name	: **Zia 1**	Field	:	STORRES

Job Type	**PRODUCTION**	Depth	**6360.0 ft**	TVD	**6360.0 ft**
BHST	**129 degF**	BHCT	**119 degF**	BHP	**2748 psi**
Starting Temp.	80 degF	Time to Temp.	01:10 hr:mn	Heating Rate	0.56 degF/min
Starting Pressure	468 psi	Time to Pressure	01:10 hr:mn	Schedule	9.5-1

Composition

Slurry Density	**13.20 lb/gal**	**Yield**	**1.35 ft3/sk**	**Mix Fluid**	**6.613 gal/sk**
Solid Vol. Fraction	**34.6 %**	Porosity	65.4 %	Slurry type	**Conventional**

Code	Concentration	Sack Reference	Component	*Blend Density*	*Lot Number*
D049		**75 lb of BLEND**	Blend	**176.05 lb/ft3**	Bulk
Fresh water	**6.563 gal/sk**		Base Fluid		Tap
D130	**0.130 lb/sk**		Lost circ		bulk
D046	**0.200 %BWOC**		Antifoam		cw4l0456a1
D042	**3.000 lb/sk**		LCM/extender		bulk
D065	**0.100 %BWOC**		Dispersant		6032
D201	**0.100 %BWOC**		Retarder		g101414-04
D177	**0.050 gal/sk**		Retarder		2014316AL

Rheology

Temperature	80 degF			118 degF		
(rpm)	Up (deg)	Down (deg)	Average (deg)	Up (deg)	Down (deg)	Average (deg)
300	**32.0**	**32.0**	**32.0**	**74.0**	**74.0**	**74.0**
200	**27.0**	**27.0**	**27.0**	**65.0**	**60.0**	**62.5**
100	**21.0**	**22.0**	**21.5**	**57.0**	**51.0**	**54.0**
60	**19.0**	**20.0**	**19.5**	**49.0**	**46.0**	**47.5**
30	**16.0**	**17.0**	**16.5**	**41.0**	**41.0**	**41.0**
6	**13.0**	**15.0**	**14.0**	**22.0**	**27.0**	**24.5**
3	**12.0**	**13.0**	**12.5**	**13.0**	**20.0**	**16.5**

10 sec Gel	14 deg - 14.94 lbf/100ft2	21 deg - 22.41 lbf/100ft2
10 min Gel	18 deg - 19.21 lbf/100ft2	21 deg - 22.41 lbf/100ft2
Rheo. computed	Viscosity : 16.876 cP Yield Point : 15.56 lbf/100ft2	Viscosity : 34.516 cP Yield Point : 40.30 lbf/100ft2

Thickening Time

Consistency	Time
NOTE: 45 minute Go-No-Go @ 01:25	
POD :	**04:40 hr:mn**
30 Bc	**04:43 hr:mn**
50 Bc	**05:02 hr:mn**
70 Bc	**05:11 hr:mn**

Free Fluid

0.0 mL/250mL in 2 hrs
At 118 degF and 0 deg incl
Sedimentation : **None**

Client	: Parsons Brinckerhoff	Well	: ZIA #1		Schlumberger
String	: Production Casing	District	: Hobbs, NM		
Country	: USA	Loadcase	: 7" Production Casing - Stg1 (Revised)		

Parsons – Zia #1- 1st Stage Field Blend Evercrete

Fluid No: 5

Fluid No	**: HNM15C044001**	Client	**: Parsons Brinckerhoff**	Location / Rig	**: Precision 107**
Date	: Jan-26-2015	Well Name	**: Zia 1**	Field	:

Signatures

P. Quintana, LT1

C.Okam LTT

Job Type	**Production**	Depth	**6200.0 ft**	TVD	**5874.0 ft**
BHST	**128 degF**	BHCT	**115 degF**	BHP	**3424 psi**
Starting Temp.	80 degF	Time to Temp.	00:50 hr:mn	Heating Rate	0.57 degF/min
Starting Pressure	444 psi	Time to Pressure	00:50 hr:mn	Schedule	9.5-1

Composition

Slurry Density	**16.00 lb/gal**	**Yield**	**1.12 ft3/sk**	**Mix Fluid**	**3.565 gal/sk**
Solid Vol. Fraction	**57.6 %**	Porosity	42.4 %	Slurry type	**Conventional**

Code	Concentration	Sack Reference	Component	Blend Density	Lot Number
EverCRETE_We		**100 lb of BLEND**	Blend	**160.87 lb/ft3**	FB3505
Fresh water	**2.555 gal/sk**		Base Fluid		Tap
D065	**0.300 %BWOB**		Dispersant		6032
D167	**0.100 %BWOB**		Fluid loss		ESD0900561
D174	**15.000 %BWOC**		Expanding ce		CW4L0513A1
D206	**0.010 gal/sk**		Antifoam		S1230141
D600G	**1.000 gal/sk**		GASBLOK		LG14D39R2P

Rheology

Temperature	80 degF			115 degF		
(rpm)	Up (deg)	Down (deg)	Average (deg)	Up (deg)	Down (deg)	Average (deg)
300	**130.0**	**130.0**	**130.0**	**118.0**	**118.0**	**118.0**
200	**90.0**	**94.0**	**92.0**	**73.0**	**84.0**	**78.5**
100	**51.0**	**53.0**	**52.0**	**47.0**	**49.0**	**48.0**
60	**34.0**	**36.0**	**35.0**	**35.0**	**34.0**	**34.5**
30	**20.0**	**22.0**	**21.0**	**25.0**	**22.0**	**23.5**
6	**6.0**	**7.0**	**6.5**	**11.0**	**8.0**	**9.5**
3	**4.0**	**5.0**	**4.5**	**7.0**	**5.0**	**6.0**
10 sec Gel	6 deg - 7.13 lbf/100ft2			6 deg - 7.13 lbf/100ft2		
10 min Gel	21 deg - 24.94 lbf/100ft2			34 deg - 40.38 lbf/100ft2		
Rheo. computed	Viscosity : 268.068 cP Yield Point : 11.07 lbf/100ft2			Viscosity : 230.714 cP Yield Point : 13.38 lbf/100ft2		

Thickening Time

Consistency	Time
Remark : Thickening time do not include batch time	
POD :	**05:20 hr:mn**
30 Bc	**05:54 hr:mn**
50 Bc	**06:07 hr:mn**
70 Bc	**06:08 hr:mn**
Batch Mix Time : 02:00 hr:mn	at 90 degF

Free Fluid

0.0 mL/250mL in 2 hrs
At 115 degF and 45 deg incl
Sedimentation : **None**

Fluid Loss

API Fluid Loss **16** mL
In 30 min at 115 degF and 1000 psi

Comments

Thickening Time Comment : **Go/NoGo: 30min@1:08**

Parsons Brinckerhoff
Zia #1
7" Production Casing, 1st Stage Cement Job from Casing Shoe @ 6,344 feet to Stage Collar @ 4,578.0 feet with approved cement volumes:

January 30th, 2015

Job Procedure

1. Rig up Schlumberger following WS Standard 5
2. Confirm well data and calculations with company representative on location (slurry and mix water volumes, tonnage, displacement volume and what fluid).
3. Confirm mud properties with company representative or mud company representative. Schlumberger supervisor to document mud yield point, viscosity, and density in cement treatment report
4. Verify rigs circulating pressure prior to start of cementing job. If circulating pressures are greater than 20% of CemCADE simulation, initiate Management of Change. Note: Well MUST BE circulated 2 X bottoms-up with casing on bottom prior to cement job execution.
5. Conduct a safety and procedure meeting with all personnel present before treatment begins. Go over contingency and recommendations plans.
6. Pressure test treating lines with fresh Water to 300psi (Low) and 5000 psi (High). Remember use a 2" Lateral and Isolation valves on SLB and Rig Pump line connecting to Cement Head. Do not break lines after Pressure Test to avoid retesting.
7. Switch to Rig Pumps to continue to circulate while SLB Batc Mix EverCRETE Slurry in Batch Mixer (BM).
8. Batch Mix 42.0 bbls, 212sxs of 16.0ppg EverCRETE Slurry in stages from Cement Unit 14.0 bbl Tub. Care MUST be taken to maintain density. If slurry density varies more than 0.1 ppg from the design density, stop and recirculate slurry in mix tub until density is within range.
9. Switch line back to SLB Pump after BM to Commence Pumping down-hole.
10. Mix & Pump 25.0 bbls, 12.0 ppg MudPUSH Expres* (MPE) Spacer at 3.5 to 4.0 bpm rate.
11. Mix and pump 16.5 bbls, 68sxs of 13.2 ppg TXI, 1st Stage Lead Cement Slurry at 3.5 to 4.0 bpm rates. If slurry density varies more than 0.1 ppg from the design density, stop and recirculate slurry in mix tub until density is within range.
12. Pump 42.0 bbls, 212sxs of 16.0 ppg EverCRETE, 1st Stage Tail Cement Slurry at 3.5 to 4.0 bpm rates from Batch Mixer.
13. Shut-down, Wash-up and Drop 1st Stage Wiper Plug.
14. Start Displacement with 20.0 bbls Fresh Water behind Wiper Plug at 5.5 to 6.0 bpm rates
15. Continue to Displace with 40.0 bbls of 9.3ppg Location WB Mud at 5.5 to 6.6 bpm rates
16. Pump 20.0 bbl Fresh Water **with Green Dye** @ 4.5 to 5.0 bpm rates to place across DV-Tool @ 4,578.0 feet
17. Continue to Displacement with 160.9 bbls of 9.3ppg Location Water Base Mud (WBM) as follows;
    - Pump 120.0 bbl @ 5.5 to 6.0 bpm prior to Pressure Catch-up
    - Pump 10.0 bbl @ 2.5 to 3.0 bpm (Reducing Pump Rate Prior to Pressure Catch-up)
    - Pump 20.0 bbl @ 3.5 to 4.0 bpm (Increasing Pump Rate after Pressure Catch-up)
    - Pump 10.9 bbl @ 1.5 to 2.0 bpm (Reducing Rate to Slowly Bump 1st Stage Wiper Plug)
18. Bump 1st stage Wiper plug with 500psi Over
19. Bleed back the pressure to ensure the float is holding.
20. Client to Proceed to Open Stage Collar (DV) Ports @ 4,578.0 feet
21. SLB to Circulate Cement Clean to Surface and Calculate with client final FC volume with Green Dye on surface prior to 2nd Stage.
22. SLB to switch to Rig Pumps to continue with circulation and Client to WOC +/-24hrs Prior to Starting 2nd Stage as per discussed

    - Notes: 42.0 bbls, 16.0ppg EverCRETE, 1st Stage Cement Slurry – Min. volume pumped in order to start displacement in the event of a failure.
    - Also 30 minutes - Maximum allowable shutdown time after slurry mixing as per lab instructions.

This is a preliminary job procedure and is subject to change on location once the Schlumberger Representative collects final well details. A final Job procedure is to be produced on location, and agreed upon between company Rep. and SLB Job Supervisor and has to be communicated to SLB Service Manager and/or Technical Engineer prior to Job Execution. Also Note that if loss is experienced during displacement, pump rate should be dropped to 3.0 bpm (if pump time permits) until regain full circulation.

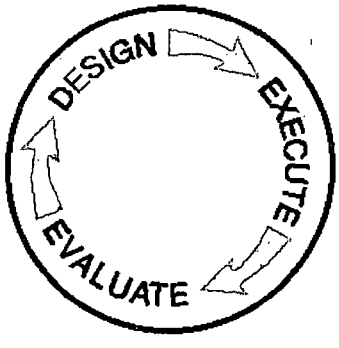
Schlumberger

CemCADE* well cementing recommendation for multi-stage 7" Production Casing

2nd Stage – Final Design with TD @ 6,360.0 feet & Stage Collar @ 4,578.0 feet

Operator	**: Parsons Brinckerhoff**	**Well**	**: ZIA #1**
Country	: USA	Field	:
State	: NM		
Prepared for	**: Russell Brentley**	**Location**	**: DCP Zia AGI #1**
Proposal No.	:	Service Point	: Hobbs, NM
Date Prepared	: 01-30-2015	Business Phone	: 575-393-6186
		FAX No.	:

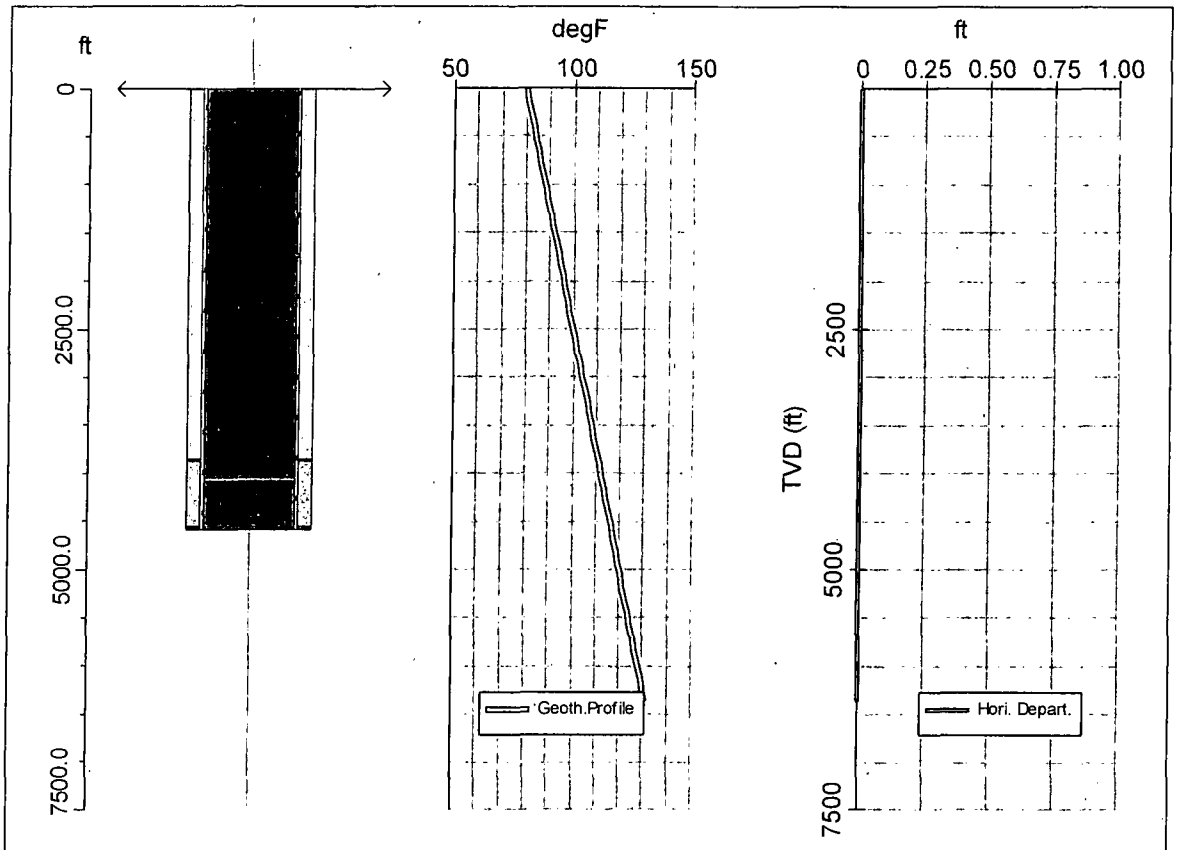
Prepared by : Peter Igharoro
Phone : 575-390-4865
E-Mail Address : igharoro4@slb.com



* Mark of Schlumberger

Section 1: Well Description

Configuration : **Casing**
Stage : **2nd of 2**
Rig Type : **Land**
Mud Line : **0.0 ft**
Total MD : **6360.0 ft**
BHST : **117 degF**
Bit Size : **8 1/2 in**
2nd Stage Poz/C Lead : **407sxs, 12.6ppg 35:65 Poz/C Cement Blend (Yield = 1.98ft³/Sk; TOC = 0.0ft)**
2nd Stage TXI Tail : **68sxs, 13.2ppg TXI Cement Blend (Yield = 1.35t³/Sk; TOC = 3,869.5ft)**



3	12.0ppg MPE Spacer	25.0 bbl	12.00 lb/gal	Herschel : k	= 2.12E-2 lbf.s^n/ft2	n = 0.352 Ty = 9.42 lbf/100ft2
4	12.6ppg Lead FB - Stg2	143.5 bbl	12.60 lb/gal	Herschel : k	= 1.09E-1 lbf.s^n/ft2	n = 0.192 Ty = 0.33 lbf/100ft2
5	13.2ppg Tail FB - Stg2	20.0 bbl	13.20 lb/gal	Herschel : k	= 1.40E-1 lbf.s^n/ft2	n = 0.242 Ty = 1.39 lbf/100ft2
1	Fresh Water	20.0 bbl	8.32 lb/gal	Newtonian: Visco.	= 1.452 cP	
2	9.3ppg Loc.WBM	155.2 bbl	9.30 lb/gal	Herschel : k	= 3.78E-5 lbf.s^n/ft2	n = 0.945 Ty = 0.69 lbf/100ft2

Total Depth = 6360.0 ft Top of Cement = 0.0 ft

Previous String			
MD (ft)	OD (in)	Weight (lb/ft)	ID (in)
4940.0	9 5/8	40.0	8.835

1st Stage Collar : 4578.0 ft
Landing Collar MD : 6295.0 ft
Casing/liner Shoe MD : 6344.0 ft

Casing/Liner								
MD (ft)	OD (in)	Joint (ft)	Weight (lb/ft)	ID (in)	Grade	Collapse (psi)	Burst (psi)	Thread
318.6	7	39.9	29.7	6.276	HCL-80	5410	7240	LTC
5305.6	7	40.2	26.0	6.276	HCL-80	4870	6210	LTC
5615.3	7	44.2	26.0	6.276	28 Cr	4870	6210	Vam Top
6344.0	7	40.5	26.0	6.276	HCL-80	5410	7240	LTC

Mean OH Diameter : 8.850 in
Mean Annular Excess : 16.0 %
Mean OH Equivalent Diameter : 9.108 in
Total OH Volume : 114.4 bbl (including excess)

Caliper and Hole Size Data			
MD (ft)	Caliper (in)	Excess (%)	Equiv. Diam. (in)
4950.0	9.826	12.5	10.125
5005.0	8.673	12.5	8.860
5060.0	9.094	12.5	9.324
5115.0	8.991	12.5	9.210
5170.0	8.649	12.5	8.834
5225.0	8.514	12.5	8.684
5280.0	8.466	12.5	8.632
5335.0	9.027	12.5	9.249
5390.0	8.537	12.5	8.711
5445.0	8.525	12.5	8.698
5500.0	8.681	12.5	8.869
5555.0	8.537	12.5	8.711
5610.0	8.657	12.5	8.842
5665.0	8.728	12.5	8.921
5720.0	8.959	12.5	9.175
5775.0	8.641	12.5	8.825
5830.0	8.744	12.5	8.939
5885.0	8.919	12.5	9.131
5940.0	9.420	12.5	9.681
5995.0	9.051	12.5	9.276
6050.0	8.927	12.5	9.140
6105.0	9.134	12.5	9.367
6160.0	8.943	12.5	9.157
6215.0	9.094	12.5	9.324
6270.0	8.693	12.5	8.882
6325.0	9.170	12.5	9.406
6344.0	9.170	12.5	9.407
6360.0	9.170	0.0	9.170

The Well is considered VERTICAL

Formation Data				
MD (ft)	**Frac.** (psi/ft)	**Pore** (psi/ft)	**Name**	**Lithology**
6360.0	0.700	0.416		Sandstone

Geothermal Temperature Profile			
MD (ft)	**TVD** (ft)	**Temperature** (degF)	**Gradient** (degF/100ft)
0.0	0.0	80	0.0
5050.0	5050.0	120	0.8
6200.0	6200.0	130	0.8
6360.0	6360.0	131	0.8

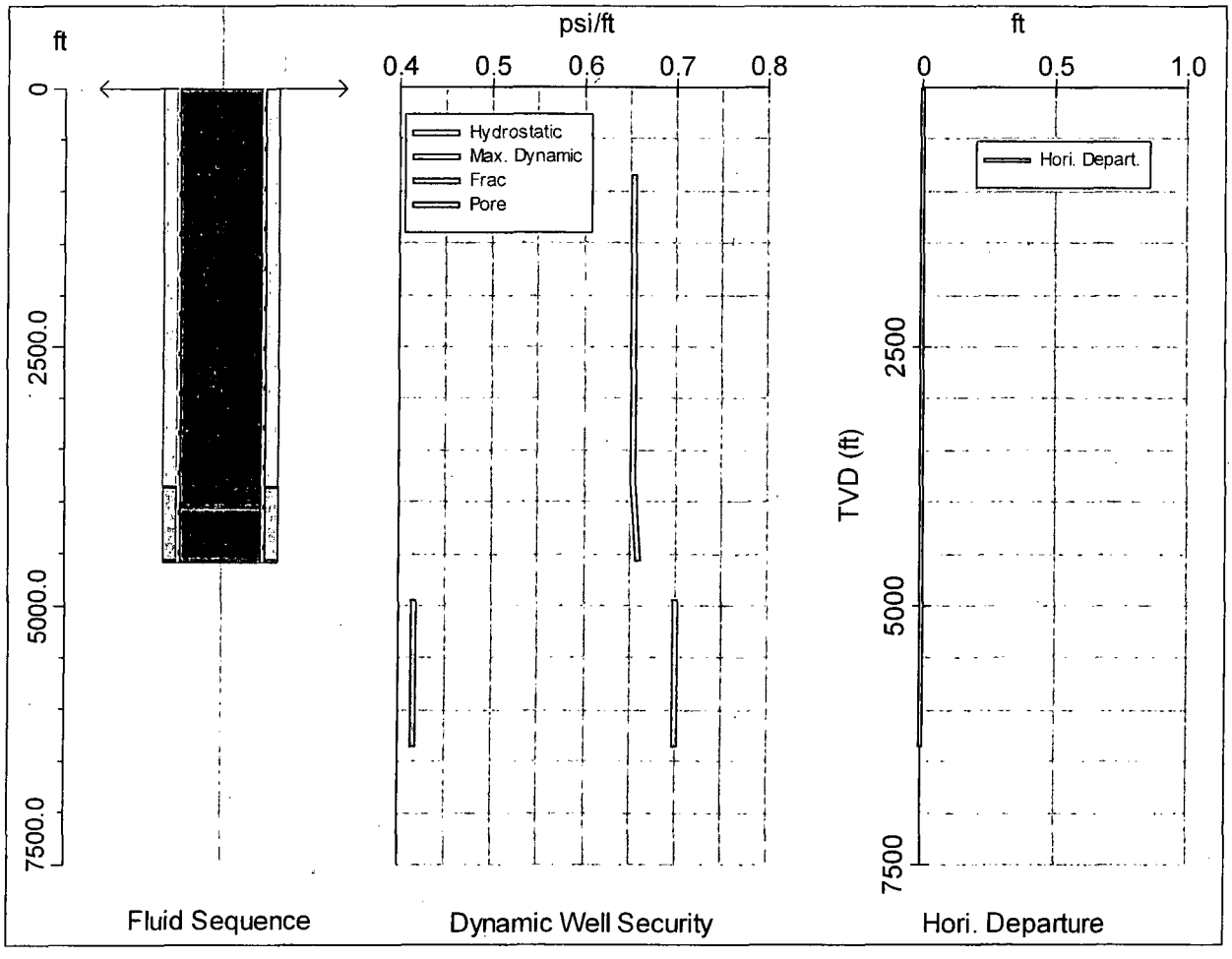
Section 2: Fluid Sequence

Job Objectives: Cement 2nd Stage 7" Production Casing SC @ 4578ft to Surface with approved Cement Volumes

Original fluid	9.3ppg Loc.WBM k : 3.78E-5 lbf.s^n/ft2	9.30 lb/gal n : 0.945	Ty : 0.69 lbf/100ft2
Dead end fluid	Fresh Water		8.32 lb/gal
Displacement Volume	175.2 bbl		
Total Volume	363.7 bbl		
TOC	0.0 ft		
Previous TOC	4578.0 ft		

Fluid Sequence							
Name	**Volume** (bbl)	**Ann. Len** (ft)	**Top** (ft)	**Density** (lb/gal)	**Rheology**		
12.0ppg MPE Spacer	25.0	0.0		12.00	k:2.12E-2 lbf.s^n/ft2	n:0.352	Ty:9.42 lbf/100ft2
12.6ppg Lead FB - Stg2	143.5	3869.5		12.60	k:1.09E-1 lbf.s^n/ft2	n:0.192	Ty:0.33 lbf/100ft2
13.2ppg Tail FB - Stg2	20.0	708.5	3869.5	13.20	k:1.40E-1 lbf.s^n/ft2	n:0.242	Ty:1.39 lbf/100ft2
Fresh Water	20.0		4055.3	8.32	viscosity:1.452 cP		
9.3ppg Loc.WBM	155.2		0.0	9.30	k:3.78E-5 lbf.s^n/ft2	n:0.945	Ty:0.69 lbf/100ft2

Static Security Checks :		
Collapse	3811 psi	at 4578.0 ft
Burst	6354 psi	at 842.0 ft
Check Valve Diff Press	833 psi	



Section 3: Pumping Schedule

Note: Well MUST BE circulated at least twice bottoms up prior to 2nd Stage cement job execution

Pumping Schedule

Name	Flow Rate (bbl/min)	Volume (bbl)	Stage Time (min)	Cum.Vol (bbl)	Inj. Temp. (degF)	Comments
Fresh Water	0.0	0.0	0.0	0.0	80	Fill-up lines with Fresh Water
Fresh Water	0.0	0.0	10.0	0.0	80	Pressure Test line to 300psi (low) & 5000psi (high)
Fresh Water	0.0	0.0	0.0	0.0	80	Bleed-off Test Pressure
12.0ppg MPE Spacer	5.0	25.0	5.0	25.0	80	Mix & Pump 12.0ppg MudPUSH Expres* Spacer
12.6ppg Lead FB - Stg2	5.0	143.5	28.7	143.5	80	Mix & Pump 407sxs, 12.6ppg 2nd Stage Lead Slurry
13.2ppg Tail FB - Stg2	5.0	20.0	4.0	20.0	80	Mix & Pump 68sxssxs, 13.2ppg 2nd Stage Tail Slurry
2nd Stage Closing Plug	0.0	0.0	10.0	0.0	80	Shut-down, Wash-up & Drop 2nd Stage Closing Plug
Fresh Water	6.0	20.0	3.3	20.0	80	Start Displacement with Fresh Water Behind
9.3ppg Location WBM	6.0	25.0	4.2	25.0	80	Continue to Displace with Location WB Mud
9.3ppg Location WBM	3.0	10.0	3.3	35.0	80	Reduce Rate Prior to pressure Catch-up
9.3ppg Location WBM	4.0	110.0	27.5	145.0	80	Increase Rate after Pressure Catch-up
9.3ppg Location WBM	2.0	10.2	5.1	155.2	80	Reduce Rate Prior to Bump 2nd Stage Closing Plug
9.3ppg Location WBM	0.0	0.0	10.0	0.0	80	Bump 2nd Stage Closing Plug with 500psi Over
9.3ppg Location WBM	0.0	0.0	0.0	0.0	80	Bleed-off Bump Pressure & Check Float
9.3ppg Location WBM	0.0	0.0	0.0	0.0	80	End Displacement / End Job

Total 01:51 hr:mn 363.7 bbl

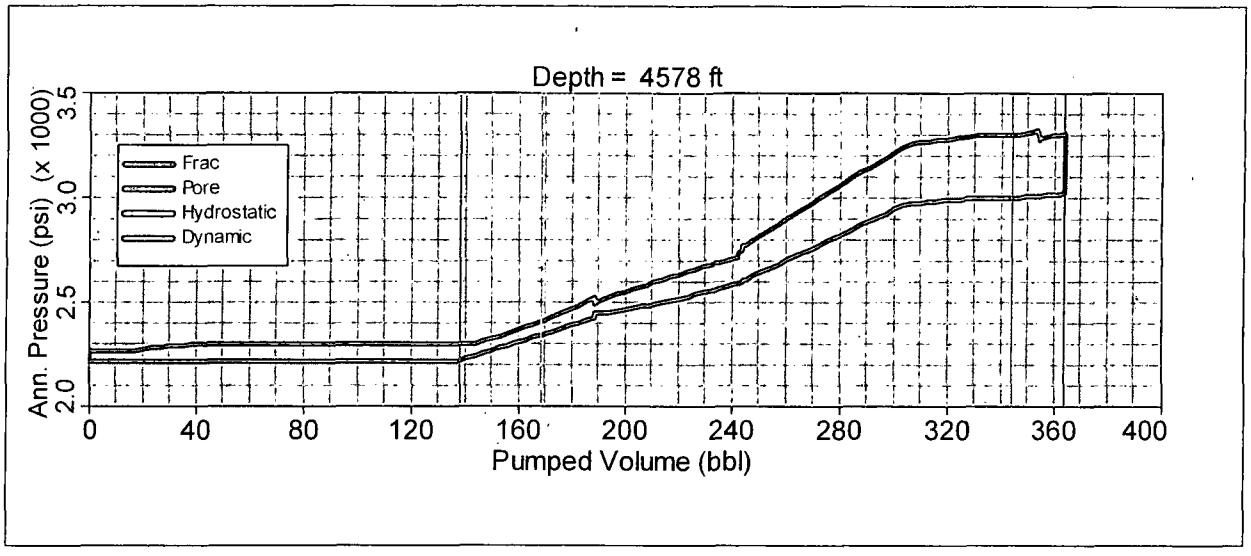
Dynamic Security Checks :		
Collapse	3810 psi	at 4578.0 ft
Burst	5973 psi	at 3869.5 ft

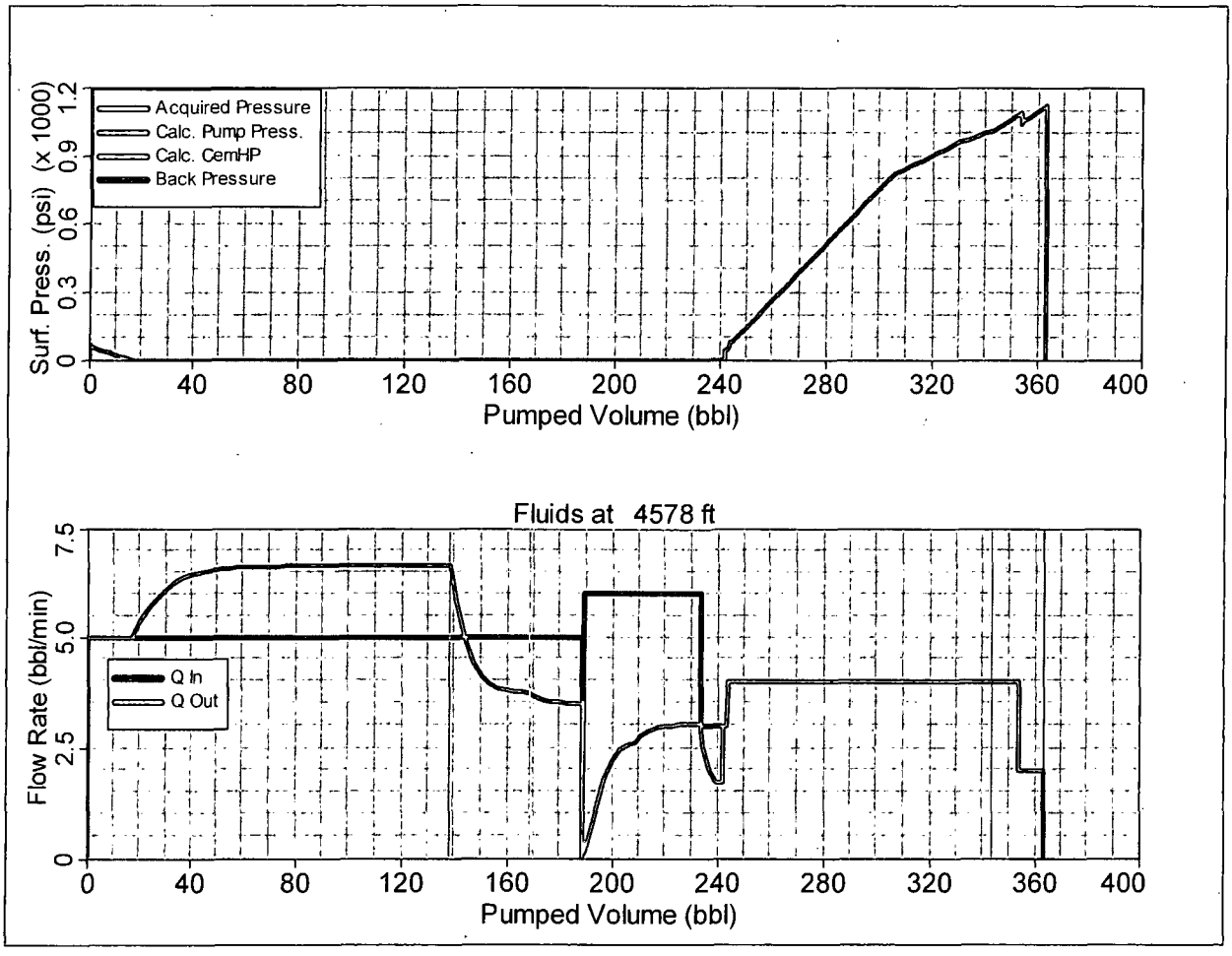
Temperature Results

BHCT	100 degF	Simulated Max HCT	117 degF
Simulated BHCT	103 degF	Max HCT Depth	4578.0 ft
CT at TOC	81 degF	Max HCT Time	00:09:37 hr:mn:sc

Static temperatures :

At Time	(hr:mn)	00:00 hr:mn	Geo. Temp.
Top of Cement	(degF)	81 degF	80 degF
Bottom Hole	(degF)	104 degF	117 degF


Depth = 4578 ft
Ann. Pressure (psi) (x 1000)
2.0
2.5
3.0
3.5
Frac
Pore
Hydrostatic
Dynamic
0
40
80
120
160
200
240
280
320
360
400
Pumped Volume (bbl)


Surf. Press. (psi) (x 1000)
0
0.3
0.6
0.9
1.2
Acquired Pressure
Calc. Pump Press.
Calc. CemHP
Back Pressure
0
40
80
120
160
200
240
280
320
360
400
Pumped Volume (bbl)
Fluids at 4578 ft
Flow Rate (bbl/min)
0
2.5
5.0
7.5
Q In
Q Out
0
40
80
120
160
200
240
280
320
360
400
Pumped Volume (bbl)

Section 4: Fluid Descriptions

Fresh Water DESIGN

Fluid No: 1
Rheo. Model : NEWTONIAN
At temp. : 80 degF

Density : 8.32 lb/gal

Viscosity : 1.452 cP
Gel Strength : (lbf/100ft2)

WASH
Wash Type : Water
Mud Type : WBM

Water/Wash (vol.): 100.0 %

Job volume : 20.0 bbl

BASE FLUID
Type : Fresh water

Density : 8.32 lb/gal

Parsons - Zia 1 Production Mud

Fluid No: 2

Fluid No : **HNM15C044003**	Client	: **Parsons Brinckerhoff**	Location / Rig	: **Precision 107**	
Date : Jan-26-2015	Well Name	: **Zia 1**	Field	:	

Signatures
P. Quintana, LT1
C.Okam LTT

Job Type	**Production**	Depth	**6200.0 ft**	TVD	**5874.0 ft**
BHST	**128 degF**	BHCT	**115 degF**	BHP	**3424 psi**
Starting Temp.	(degF)	Time to Temp.	(hr:mn)	Heating Rate	(degF/min)
Starting Pressure	(psi)	Time to Pressure	(hr:mn)	Schedule	( )

Composition

Density	**9.30 lb/gal**	**Type**	**WBM**

Rheology

(rpm)	(deg)
300	2.0
200	1.0
100	1.0
60	1.0
30	1.0
6	1.0
3	1.0

Temperature	115 degF
Pressure	(psi)

Viscosity: 1.267 cP
Yield Point: 0.73 lbf/100ft2

Client	: Parsons Brinckerhoff	Well	: ZIA #1		
String	: Production Casing	District	: Hobbs, NM		
Country	: USA	Loadcase	: 7" Production Casing - Stg2		

Schlumberger

Parsons - Zia 1 Production MPE

Fluid No: 3

						Signatures
Fluid No	: **HNM15C044002**	Client	: **Parsons Brinckerhoff**	Location / Rig	: **Precision 107**	K. Hamburg
Date	: Jan-28-2015	Well Name	: **Zia 1**	Field	:	C.Okam LTT

Job Type	**Production**	Depth	**6200.0 ft**	TVD	**5874.0 ft**
BHST	**128 degF**	BHCT	**115 degF**	BHP	**3424 psi**
Starting Temp.	(degF)	Time to Temp.	(hr:mn)	Heating Rate	(degF/min)
Starting Pressure	(psi)	Time to Pressure	(hr:mn)	Schedule	( )

Composition

Density	**12.00 lb/gal**	**Type**	**Others**	**Mix Water/Spacer (vol)**	**86.3 %**
Porosity	86.7 %	Solid Vol. Fraction	13.3 %		

Code	Concentration	Component	*Lot Number*
Fresh water			
B389	0.800 lb/bbl of spacer	Viscosifier	4H0791W
D047	0.200 gal/bbl of spacer	Antifoam	TU4E0313A1
D031	200.08 lb/bbl of spacer	weight agent	

Rheology

(rpm)	(deg)
300	28.0
200	25.0
100	22.0
60	20.0
30	18.5
6	14.5
3	13.0

Client	: Parsons Brinckerhoff	Well	: ZIA #1	Schlumberger
String	: Production Casing	District	: Hobbs, NM	
Country	: USA	Loadcase	: 7" Production Casing - Stg2	

Parson - Zia 1 2nd Stage Field Blend Lead

Fluid No: 4

Fluid No	**: HNM15C042001**	Client	**: Parsons Brinkerhoff**	Location / Rig	**: PRECISION 107**
Date	: Jan-24-2015	Well Name	**: Zia 1**	Field	:

Signatures
P. Quintana, LT1
STORRES

Job Type	**PRODUCTION**	Depth	**5000.0 ft**	TVD	**5000.0 ft**
BHST	**121 degF**	BHCT	**108 degF**	BHP	**2900 psi**
Starting Temp.	80 degF	Time to Temp.	00:29 hr:mn	Heating Rate	0.80 degF/min
Starting Pressure	400 psi	Time to Pressure	00:29 hr:mn	Schedule	9.5-1

Composition

Slurry Density	**12.60 lb/gal**	**Yield**	**1.98 ft3/sk**	**Mix Fluid**	**10.764 gal/sk**
Solid Vol. Fraction	**27.3 %**	Porosity	72.7 %	Slurry type	**Conventional**

Code	Concentration	Sack Reference	Component	*Blend Density*	*Lot Number*
26/61 D035/C		**87 lb of BLEND**	Blend	**182.33 lb/ft3**	FB3489
Fresh water	**10.604 gal/sk**		Base Fluid		Tap
D046	**0.200 %BWOB**		Antifoam		CW4L0456A1
D020	**4.000 %BWOB**		Extender		BULK
D042	**3.000 lb/sk**		LCM/extender		BULK
D130	**0.130 lb/sk**		Lost circ		BULK
D044	**5.000 %BWOW**		Salt		BULK

Rheology

Temperature	80 degF			108 degF		
(rpm)	Up (deg)	Down (deg)	Average (deg)	Up (deg)	Down (deg)	Average (deg)
300	**41.0**	**41.0**	**41.0**	**36.0**	**36.0**	**36.0**
200	**38.0**	**37.0**	**37.5**	**33.0**	**33.0**	**33.0**
100	**34.0**	**33.0**	**33.5**	**29.0**	**28.0**	**28.5**
60	**32.0**	**31.0**	**31.5**	**27.0**	**26.0**	**26.5**
30	**30.0**	**29.0**	**29.5**	**25.0**	**24.0**	**24.5**
6	**22.0**	**24.0**	**23.0**	**15.0**	**19.0**	**17.0**
3	**15.0**	**20.0**	**17.5**	**10.0**	**15.0**	**12.5**

10 sec Gel	18 deg - 19.21 lbf/100ft2	13 deg - 13.88 lbf/100ft2
10 min Gel	19 deg - 20.28 lbf/100ft2	15 deg - 16.01 lbf/100ft2
Rheo. computed	Viscosity : 12.262 cP Yield Point : 29.05 lbf/100ft2	Viscosity : 12.601 cP Yield Point : 23.97 lbf/100ft2

Thickening Time

Consistency	Time
POD :	**02:24 hr:mn**
30 Bc	**03:57 hr:mn**
50 Bc	**04:43 hr:mn**
70 Bc	**05:53 hr:mn**

Free Fluid

2.0 mL/250mL in 2 hrs
At 105 degF and 0 deg incl
Sedimentation : **None**

13.2ppg Tail FB - Stg2 DESIGN

Fluid No: 5
Rheo. Model : HERSCHEL_B.
At temp. : 108 degF

Density : 13.20 lb/gal
k : 1.40E-1 lbf.s^n/ft2
n : 0.242
Ty : 1.39 lbf/100ft2
Gel Strength : (lbf/100ft2)

DESIGN

BLEND
Name : D049
Dry Density : 176.05 lb/ft3
Sack Weight : 75 lb

SLURRY
Mix Fluid : 6.613 gal/sk
Yield : 1.35 ft3/sk
Solid Fraction : 34.6 %

Job volume : 20.0 bbl
Quantity : 83.06 sk

BASE FLUID
Type : Fresh water
Density : 8.32 lb/gal
Base Fluid : 6.563 gal/sk

Additives		
Code	**Conc.**	**Function**
D130	0.130 lb/sk blend	Lost circ
D046	0.200 %BWOC	Antifoam
D042	3.000 lb/sk blend	LCM/extender
D065	0.100 %BWOC	Dispersant
D201	0.100 %BWOC	Retarder

Rheometric Measurements

Rheometer type : 35
Geometry : R1B1
Spring No : 1.0

(rpm)	At 108 degF (deg)
300	64.0
200	57.0
100	49.0
60	44.0
30	39.5
6	27.0
3	18.5

	Viscosity : (cP)
10 sec Gel Strength	17.08 lbf/100ft2
10 min Gel Strength	23.48 lbf/100ft2

NOTE: The 2nd Stage FB lab Testing is not ready at the time of this report and result will be available prior to job execution

Parsons Brinckerhoff
Zia #1
7" Production Casing, 2nd Stage Cement Job from Stage Collar @ 4,578.0 feet to Surface with approved cement volumes:

January 30th, 2015

Job Procedure

1. Rig up Schlumberger following WS Standard 5
2. Confirm well data and calculations with company representative on location (slurry and mix water volumes, tonnage, displacement volume and what fluid).
3. Confirm mud properties with company representative or mud company representative. Schlumberger supervisor to document mud yield point, viscosity, and density in cement treatment report
4. Verify rigs circulating pressure prior to start of cementing job. If circulating pressures are greater than 20% of CemCADE simulation, initiate Management of Change. Note: Well MUST BE circulated 2 X bottoms-up with casing on bottom prior to cement job execution.
5. Conduct a safety and procedure meeting with all personnel present before treatment begins. Go over contingency and recommendations plans.
6. Pressure test treating lines with fresh Water to 300psi (Low) and 5000 psi (High). Remember use a 2" Lateral and Isolation valves on SLB and Rig Pump line connecting to Cement Head. Do not break lines after Pressure Test to avoid retesting.
7. Mix & Pump 25.0 bbls, 12.0 ppg MudPUSH Expres* (MPE) Spacer at 4.5 to 5.0 bpm rate.
8. Mix and pump 143.5 bbls, 407sxs of 12.6 ppg 35:65 Poz/C, 2nd Stage Lead Cement Slurry at 4.5 to 5.0 bpm rates. If slurry density varies more than 0.1 ppg from the design density, stop and recirculate slurry in mix tub until density is within range.
9. Mix & Pump 20.0 bbls, 68sxs of 13.2 ppg TXI, 2nd Stage Tail Cement Slurry at 4.5 to 5.0 bpm rates.
10. Shut-down, Wash-up and Drop 2nd Stage Closing / Wiper Plug.
11. Start Displacement with 20.0 bbls Fresh Water behind Wiper Plug at 5.5 to 6.0 bpm rates
12. Continue to Displacement with 155.2 bbls of 9.3ppg Location Water Base Mud (WBM) as follows;
    - Pump 25.0 bbl @ 5.5 to 6.0 bpm prior to Pressure Catch-up
    - Pump 10.0 bbl @ 2.5 to 3.0 bpm (Reducing Pump Rate Prior to Pressure Catch-up)
    - Pump 110.0 bbl @ 3.5 to 4.0 bpm (Increasing Pump Rate after Pressure Catch-up)
    - Pump 10.2 bbl @ 1.5 to 2.0 bpm (Reducing Rate to Slowly Bump 1st Stage Wiper Plug)
13. Bump 2nd Stage Wiper plug with 500psi Over
14. Bleed back the pressure to ensure the float is holding.
15. Client to Proceed to Open Stage Collar (DV) Ports @ 4,578.0 feet
16. SLB to Circulate Cement Clean to Surface and Calculate with client final FC volume with Green Dye on surface prior to 2nd Stage.
17. SLB to switch to Rig Pumps to continue with circulation and Client to WOC +/-24hrs Prior to Starting 2nd Stage as per discussed

    - Notes: 143.5 bbls, 12.6ppg 35:65 Poz/C, 2nd Stage Lead Slurry – Min. volume pumped in order to start displacement in the event of a failure.
    - Also 10 minutes - Maximum allowable shutdown time after slurry mixing as per lab instructions.

This is a preliminary job procedure and is subject to change on location once the Schlumberger Representative collects final well details. A final Job procedure is to be produced on location, and agreed upon between company Rep. and SLB Job Supervisor and has to be communicated to SLB Service Manager and/or Technical Engineer prior to Job Execution. Also Note that if loss is experienced during displacement, pump rate should be dropped to 3.0 bpm (if pump time permits) until regain full circulation.

PB Energy Storage Services

Precision Rig #107

Well	ZIA AGI #1
Date	28-Jan-15
Total Depth	6,360
Shoe Depth	6,344
Rathole	16

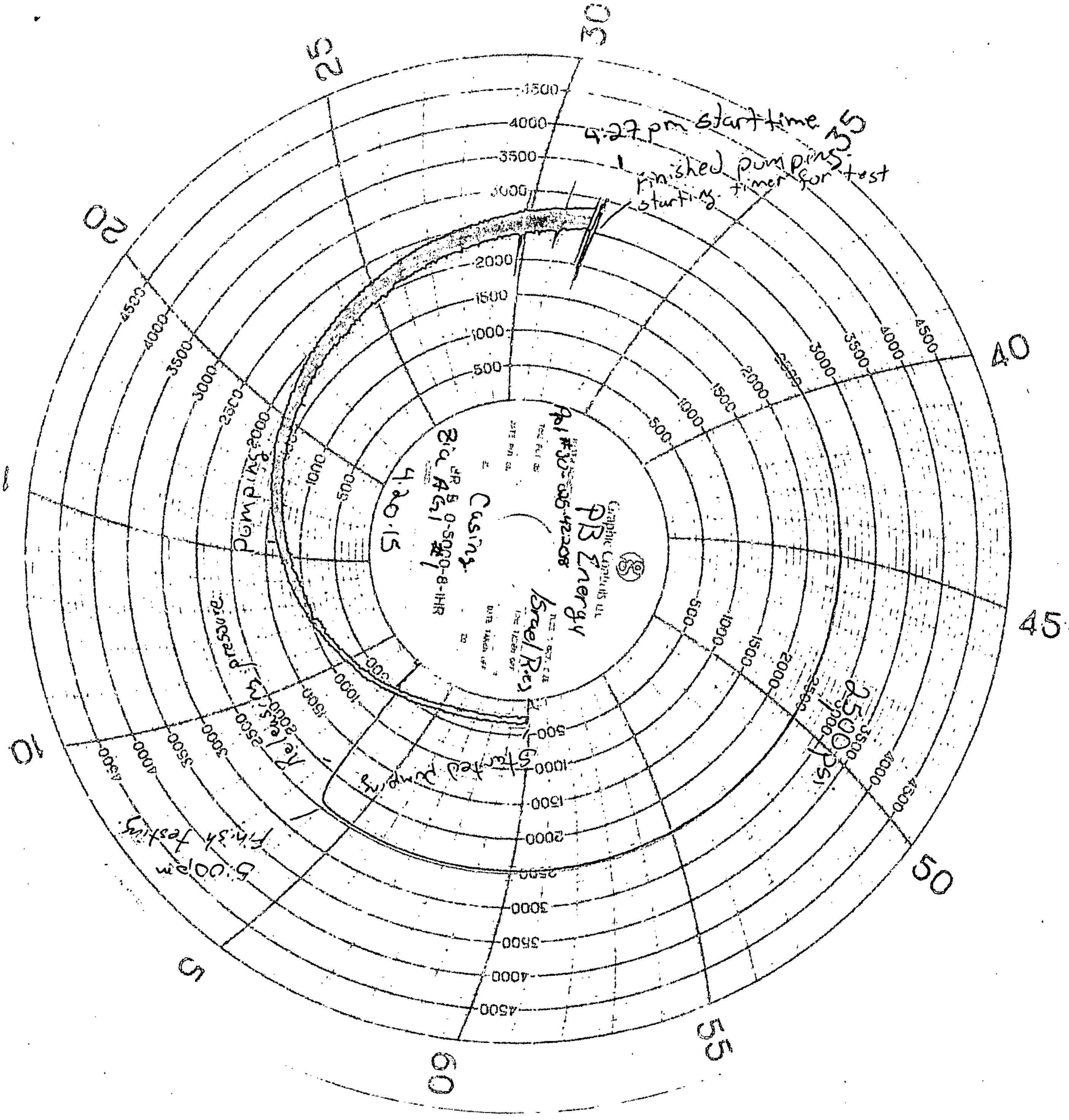
Run Jt #	Unit #	Length	O.D.	Weight	Grade	Thread	Remarks	Total Length	Collar Depth
1	F/S	1.90	7	26	HCL-80	LTC		1.94	6,342.06
2	1	45.30	7	26	HCL-80	LTC	(2) Cent 1 & 2	47.20	6,296.80
3	F/C	1.52	7	26	HCL-80	LTC		48.72	6,295.28
4	2	45.32	7	26	HCL-80	LTC	(2) Cent 3 & 4	94.04	6,249.96
5	3	45.30	7	26	HCL-80	LTC	(2) Cent 5 & 6	139.34	6,204.66
6	4	45.30	7	26	HCL-80	LTC	(2) Cent 7 & 8	184.64	6,159.36
7	5	45.30	7	26	HCL-80	LTC	(2) Cent 9 & 10	229.94	6,114.06
8	6	45.28	7	26	HCL-80	LTC	2-Cent 11 & 12	275.22	6,068.78
9	7	45.32	7	26	HCL-80	LTC	2-Cent 13 & 14	320.54	6,023.46
10	8	45.30	7	26	HCL-80	LTC	2-Cent 15 & 16	365.84	5,978.16
11	9	45.25	7	26	HCL-80	LTC	2-Cent 17 & 18	411.09	5,932.91
12	10	45.42	7	26	HCL-80	LTC	2-Cent 19 & 20	456.51	5,887.49
13	11	45.30	7	26	HCL-80	LTC	2-Cent 21 & 22	501.81	5,842.19
14	12	45.30	7	26	HCL-80	LTC	2-Cent 23 & 24	547.11	5,796.89
15	13	45.44	7	26	HCL-80	LTC	2-Cent 25 & 26	592.55	5,751.45
16	14	45.30	7	26	HCL-80	LTC	2-Cent 27 & 28	637.85	5,706.15
17	15	45.54	7	26	HCL-80	LTC	2-Cent 29 & 30	683.39	5,660.61
18	16	45.30	7	26	HCL-80	LTC	2-Cent 31 & 32	728.69	5,615.31
19	17	30.60	7	26	28 Cr	Vam Top	2-Cent 33 & 34	759.29	5,584.71
20	18	28.17	7	26	28 Cr	Vam Top	2-Cent 35 & 36	787.46	5,556.54
21	19	35.70	7	26	28 Cr	Vam Top	2-Cent 37 & 38	823.16	5,520.84
22	20	30.23	7	26	28 Cr	Vam Top		853.39	5,490.61
23	21	33.02	7	26	28 Cr	Vam Top	Cent #39	886.41	5,457.59
24	22	25.42	7	26	28 Cr	Vam Top		911.83	5,432.17
25	23	32.53	7	26	28 Cr	Vam Top	Cent #40	944.36	5,399.64
26	24	30.80	7	26	28 Cr	Vam Top		975.16	5,368.84
27	25	31.12	7	26	28 Cr	Vam Top	Cent #41	1,006.28	5,337.72
28	26	32.07	7	26	28 Cr	Vam Top	X-O	1,038.35	5,305.65
29	27	45.30	7	26	HCL-80	LTC		1,083.65	5,260.35
30	28	45.30	7	26	HCL-80	LTC	Cent #42	1,128.95	5,215.05
31	29	45.30	7	26	HCL-80	LTC		1,174.25	5,169.75
32	30	45.30	7	26	HCL-80	LTC	Cent #43	1,219.55	5,124.45
33	31	45.28	7	26	HCL-80	LTC		1,264.83	5,079.17
34	32	45.30	7	26	HCL-80	LTC	Cent #44	1,310.13	5,033.87
35	33	45.30	7	26	HCL-80	LTC		1,355.43	4,988.57
36	34	45.30	7	26	HCL-80	LTC	Cent #45	1,400.73	4,943.27
37	35	45.27	7	26	HCL-80	LTC		1,446.00	4,898.00
38	36	45.30	7	26	HCL-80	LTC	Cent #46	1,491.30	4,852.70
39	37	45.33	7	26	HCL-80	LTC		1,536.63	4,807.37
40	38	45.34	7	26	HCL-80	LTC		1,581.97	4,762.03
41	39	45.30	7	26	HCL-80	LTC	Cent #47	1,627.27	4,716.73
42	40	45.31	7	26	HCL-80	LTC		1,672.58	4,671.42
43	41	45.32	7	26	HCL-80	LTC		1,717.90	4,626.10
44	42	45.31	7	26	HCL-80	LTC	Cent #48	1,763.21	4,580.79
DVTool	2-Stage	2.70	7	26	HCL-80	LTC		1,765.91	4,578.09
45	43	45.30	7	26	HCL-80	LTC		1,811.21	4,532.79
46	44	45.30	7	26	HCL-80	LTC	Cent #49	1,856.51	4,487.49
47	45	45.30	7	26	HCL-80	LTC		1,901.81	4,442.19
48	46	45.41	7	26	HCL-80	LTC		1,947.22	4,396.78
49	47	45.30	7	26	HCL-80	LTC	Cent #50	1,992.52	4,351.48
50	48	45.33	7	26	HCL-80	LTC		2,037.85	4,306.15
51	49	45.33	7	26	HCL-80	LTC		2,083.18	4,260.82
52	50	45.51	7	26	HCL-80	LTC		2,128.69	4,215.31
53	51	45.31	7	26	HCL-80	LTC	Cent #51	2,174.00	4,170.00
54	52	45.30	7	26	HCL-80	LTC		2,219.30	4,124.70
55	53	45.30	7	26	HCL-80	LTC		2,264.60	4,079.40
56	54	45.50	7	26	HCL-80	LTC		2,310.10	4,033.90
57	55	45.52	7	26	HCL-80	LTC	Cent #52	2,355.62	3,988.38
58	56	45.30	7	26	HCL-80	LTC		2,400.92	3,943.08
59	57	45.32	7	26	HCL-80	LTC		2,446.24	3,897.76
60	58	45.31	7	26	HCL-80	LTC		2,491.55	3,852.45
61	59	45.30	7	26	HCL-80	LTC	Cent #53	2,536.85	3,807.15
62	60	45.53	7	26	HCL-80	LTC		2,582.38	3,761.62
63	61	45.54	7	26	HCL-80	LTC		2,627.92	3,716.08
64	62	45.37	7	26	HCL-80	LTC		2,673.29	3,670.71
65	63	45.42	7	26	HCL-80	LTC	Cent #54	2,718.71	3,625.29
66	64	45.38	7	26	HCL-80	LTC		2,764.09	3,579.91
67	65	45.40	7	26	HCL-80	LTC		2,809.49	3,534.51
68	66	45.40	7	26	HCL-80	LTC		2,854.89	3,489.11
69	67	45.40	7	26	HCL-80	LTC		2,900.29	3,443.71
70	68	45.40	7	26	HCL-80	LTC	Cent #55	2,945.69	3,398.31

Charles W. Stack

71	69	45.50	7	26	HCL-80	LTC		2,991.19	3,352.81
72	70	45.53	7	26	HCL-80	LTC		3,036.72	3,307.28
73	71	45.28	7	26	HCL-80	LTC		3,082.00	3,262.00
74	72	45.30	7	26	HCL-80	LTC		3,127.30	3,216.70
75	73	45.28	7	26	HCL-80	LTC	Cent #56	3,172.58	3,171.42
76	74	45.32	7	26	HCL-80	LTC		3,217.90	3,126.10
77	75	45.30	7	26	HCL-80	LTC		3,263.20	3,080.80
78	76	45.30	7	26	HCL-80	LTC		3,308.50	3,035.50
79	77	45.32	7	26	HCL-80	LTC		3,353.82	2,990.18
80	78	45.30	7	26	HCL-80	LTC	Cent #57	3,399.12	2,944.88
81	79	45.30	7	26	HCL-80	LTC		3,444.42	2,899.58
82	80	45.30	7	26	HCL-80	LTC		3,489.72	2,854.28
83	81	45.00	7	26	HCL-80	LTC		3,534.72	2,809.28
84	82	45.30	7	26	HCL-80	LTC		3,580.02	2,763.98
85	83	45.23	7	26	HCL-80	LTC	Cent #58	3,625.25	2,718.75
86	84	45.52	7	26	HCL-80	LTC		3,670.77	2,673.23
87	85	45.54	7	26	HCL-80	LTC		3,716.31	2,627.69
88	86	45.52	7	26	HCL-80	LTC		3,761.83	2,582.17
89	87	45.22	7	26	HCL-80	LTC		3,807.05	2,536.95
90	88	45.52	7	26	HCL-80	LTC	Cent #59	3,852.57	2,491.43
91	89	45.30	7	26	HCL-80	LTC		3,897.87	2,446.13
92	90	45.30	7	26	HCL-80	LTC		3,943.17	2,400.83
93	91	45.32	7	26	HCL-80	LTC		3,988.49	2,355.51
94	92	45.32	7	26	HCL-80	LTC		4,033.81	2,310.19
95	93	45.30	7	26	HCL-80	LTC	Cent #60	4,079.11	2,264.89
96	94	45.30	7	26	HCL-80	LTC		4,124.41	2,219.59
97	95	45.28	7	26	HCL-80	LTC		4,169.69	2,174.31
98	96	45.33	7	26	HCL-80	LTC		4,215.02	2,128.98
99	97	45.30	7	26	HCL-80	LTC		4,260.32	2,083.68
100	98	45.55	7	26	HCL-80	LTC	Cent #61	4,305.87	2,038.13
101	99	45.50	7	26	HCL-80	LTC		4,351.37	1,992.63
102	100	45.00	7	26	HCL-80	LTC		4,396.37	1,947.63
103	101	45.30	7	26	HCL-80	LTC		4,441.67	1,902.33
104	102	45.47	7	26	HCL-80	LTC		4,487.14	1,856.86
105	103	45.30	7	26	HCL-80	LTC	Cent #62	4,532.44	1,811.56
106	104	45.30	7	26	HCL-80	LTC		4,577.74	1,766.26
107	105	45.50	7	26	HCL-80	LTC		4,623.24	1,720.76
108	106	45.30	7	26	HCL-80	LTC		4,668.54	1,675.46
109	107	45.30	7	26	HCL-80	LTC		4,713.84	1,630.16
110	108	45.52	7	26	HCL-80	LTC	Cent #63	4,759.36	1,584.64
111	109	45.30	7	26	HCL-80	LTC		4,804.66	1,539.34
112	110	45.29	7	26	HCL-80	LTC		4,849.95	1,494.05
113	111	45.30	7	26	HCL-80	LTC		4,895.25	1,448.75
114	112	45.32	7	26	HCL-80	LTC		4,940.57	1,403.43
115	113	45.27	7	26	HCL-80	LTC	Cent #64	4,985.84	1,358.16
116	114	45.28	7	26	HCL-80	LTC		5,031.12	1,312.88
117	115	45.28	7	26	HCL-80	LTC		5,076.40	1,267.60
118	116	45.26	7	26	HCL-80	LTC		5,121.66	1,222.34
119	117	45.32	7	26	HCL-80	LTC		5,166.98	1,177.02
120	118	45.30	7	26	HCL-80	LTC	Cent #65	5,212.28	1,131.72
121	119	45.27	7	26	HCL-80	LTC		5,257.55	1,086.45
122	120	45.30	7	26	HCL-80	LTC		5,302.85	1,041.15
123	121	45.27	7	26	HCL-80	LTC		5,348.12	995.88
124	122	45.30	7	26	HCL-80	LTC		5,393.42	950.58
125	123	45.30	7	26	HCL-80	LTC	Cent #66	5,438.72	905.28
126	124	45.30	7	26	HCL-80	LTC		5,484.02	859.98
127	125	45.27	7	26	HCL-80	LTC		5,529.29	814.71
128	126	45.28	7	26	HCL-80	LTC		5,574.57	769.43
129	127	45.50	7	26	HCL-80	LTC		5,620.07	723.93
130	128	45.27	7	26	HCL-80	LTC	Cent #67	5,665.34	678.66
131	129	45.00	7	26	HCL-80	LTC		5,710.34	633.66
132	130	45.12	7	26	HCL-80	LTC		5,755.46	588.54
133	131	45.12	7	26	HCL-80	LTC		5,800.58	543.42
134	132	44.85	7	26	HCL-80	LTC		5,845.43	498.57
135	133	44.88	7	26	HCL-80	LTC	Cent #68	5,890.31	453.69
136	134	44.91	7	26	HCL-80	LTC		5,935.22	408.78
137	135	44.90	7	26	HCL-80	LTC		5,980.12	363.88
138	136	45.30	7	26	HCL-80	LTC		6,025.42	318.58
	X-O	1.65	7 x 7.625	26 x 29.7	HCL-80	LTC		6,027.07	316.93
139	137	45.32	7 5/8	29.7	HCL-80	LTC		6,072.39	271.61
140	138	45.35	7 5/8	29.7	HCL-80	LTC		6,117.74	226.26
141	139	45.39	7 5/8	29.7	HCL-80	LTC		6,163.13	180.87
142	140	45.35	7 5/8	29.7	HCL-80	LTC		6,208.48	135.52
143	141	45.37	7 5/8	29.7	HCL-80	LTC		6,253.85	90.15
144	142	45.33	7 5/8	29.7	HCL-80	LTC		6,299.18	44.82
145	143	45.34	7 5/8	29.7	HCL-80	LTC		6,344.52	-0.52

8	Extra	7"	26 PPF
151	Total Joints	On	Location

Charles W. Slack


4:27 pm start time
finished pumping
starting timer for test
PB Energy
Israel Rey
Casing
4.20.15
2500 psi
Started pumping
Released pressure
Pumping
5:00pm
finish testing