

Submit To Appropriate District Office Two Copies <u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 811 S. First St., Artesia, NM 88210 <u>District III</u> 1000 Rio Brazos Rd., Aztec, NM 87410 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505	State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505	Form C-105 Revised April 3, 2017								
		1. WELL API NO. 30-025-43498								
		2. Type of Lease ☒ STATE ☒ FEE ☐ FED/INDIAN								
		3. State Oil & Gas Lease No.								
WELL COMPLETION OR RECOMPLETION REPORT AND LOG										
4. Reason for filing: ☒ COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only) ☐ C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC)		5. Lease Name or Unit Agreement Name Larry SA 18								
7. Type of Completion: ☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER		6. Well Number: No.103H								
8. Name of Operator Nemo Fund I, LLC		9. OGRID 310809								
10. Address of Operator 901 W. Missouri Ave., Ste.911, Midland, TX 79701		11. Pool name or Wildcat Crossroads; San Andres, East (14270)								
12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:	P	18	10-S	37-E		10'	FSL	1320'	FEL	Lea
BH:	B	18	10-S	37-E		330'	FNL	1980'	FEL	Lea
13. Date Spudded 1/12/17	14. Date T.D. Reached 2/08/17		15. Date Rig Released 2/09/2017		16. Date Completed (Ready to Produce) 4/06/2017		17. Elevations (DF and RKB, RT, GR, etc.) 3967' G.L.			
18. Total Measured Depth of Well 9950' MD / 4993' TVD		19. Plug Back Measured Depth 9803'		20. Was Directional Survey Made? Yes		21. Type Electric and Other Logs Run CBL				
22. Producing Interval(s), of this completion - Top, Bottom, Name 5697' - 9680' San Andres										
23. CASING RECORD (Report all strings set in well)										
CASING SIZE		WEIGHT LB./FT.		DEPTH SET		HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED
9.625"		36.0#		2305'		12.25"		755 sx		
5.5"		20.0#		9950'		8.75"		2155 sx		
24. LINER RECORD						25. TUBING RECORD				
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN		SIZE	DEPTH SET	PACKER SET		
						2.375" IPC	4687'			
26. Perforation record (interval, size, and number) 5697' - 9680'						27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.				
						DEPTH INTERVAL		AMOUNT AND KIND MATERIAL USED		
						19 intervals		NE-FE HCl		
						See attachments				
28. PRODUCTION										
Date First Production 4/07/17		Production Method (Flowing, gas lift, pumping - Size and type pump) PCP pump				Well Status (Prod. or Shut-in) Producing				
Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF	Water - Bbl.	Gas - Oil Ratio			
Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - (Corr.)				
29. Disposition of Gas (Sold, used for fuel, vented, etc.) Sold						30. Test Witnessed By				
31. List Attachments Current wellbore schematic, Directional chart, perf & plug detail										
32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.						33. Rig Release Date:				
34. If an on-site burial was used at the well, report the exact location of the on-site burial:										
Latitude			Longitude			NAD83				
I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief										
Signature E-mail Address		Printed Name		Title			Date			
ben@sosconsulting.us		Ben Stone		Agent for Nemo Fund I, LLC			10/02/2017			

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy Rustler 2205'	T. Delaware Sand	T. Ojo Alamo	T. Penn "A"
T. Salt 2320'	T. Strawn	T. Kirtland	T. Penn. "B"
B. Salt 2929'	T. Atoka	T. Fruitland	T. Penn. "C"
T. Yates 3658'	T. Miss	T. Pictured Cliffs	T. Penn. "D"
T. 7 Rivers 3750'	T. Devonian	T. Cliff House	T. Leadville
T. Queen	T. Silurian	T. Menefee	T. Madison
T. Grayburg 3935'	T. Montoya	T. Point Lookout	T. Elbert
T. San Andres 4212'	T. Simpson	T. Mancos	T. McCracken
T. Glorieta	T. McKee	T. Gallup	T. Ignacio Otzte
T. Paddock	T. Ellenburger	Base Greenhorn	T. Granite
T. Blinebry	T. Gr. Wash	T. Dakota	
T. Tubb	T. Delaware Sand	T. Morrison	
T. Drinkard	T. Bone Springs	T. Todilto	
T. Abo	T. Morrow Lime	T. Entrada	
T. Wolfcamp	T. Barnett	T. Wingate	
T. Penn	T. Barnett Sh.	T. Chinle	
T. Cisco (Bough C)	T. Woodford Sh.	T. Permian	

OIL OR GAS SANDS OR ZONES

No. 1, from.....to..... No. 3, from.....to.....
 No. 2, from.....to..... No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....
 No. 2, from.....to.....feet.....
 No. 3, from.....to.....feet.....

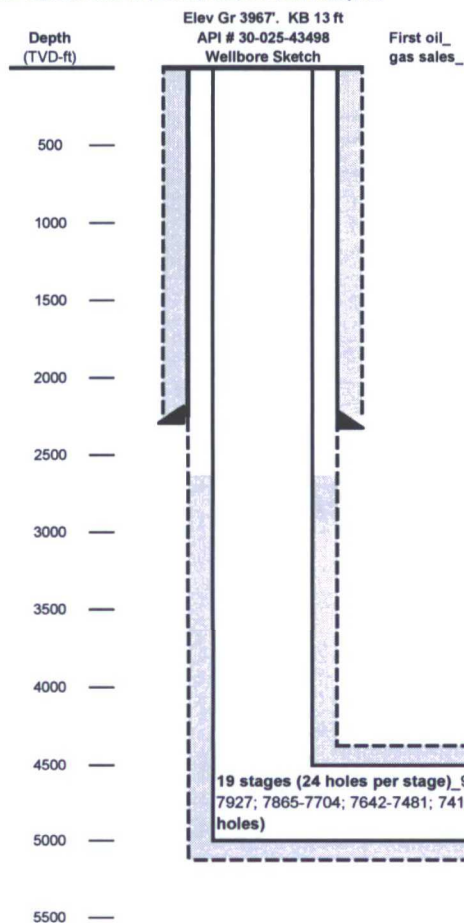
LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology	From	To	Thickness In Feet	Lithology

Larry 18 SA Unit 1-03H

Location: 10' FSL & 1310 FEL, Sec 18, T10S, R37E, Lea County, NM.

BHL= 342 FNL & 1902 FEL, Sec 18, T10S, R37E, Lea County, NM



Est Formation Tops:

Rustler	2,205
Salt	2,320
Base Salt	2,929
Yates	3,658
7 Rivers	3,750
Grayburg	3,935
San Andres	4,212

Totals Cudd		
Total Load	18,317	bbls
Total Acid	5,145	bbls
Total 20/40 white	106,307	lbs
Total 20/40 Coolset	18,942	lbs
Total Pump Down	2,891	bbls
Total Sand =	125,249	lbs

KOP ± 4400
10" curve
EOC ± 5772' (88.4") TVD 4998.75'
TVD = 4993 avg
Lateral TD = 9,950
Shoe @ ± 9,950
FC @ ± 9,903
PBTD FC @ ± 9,903
VS 4967.87
Effective lat 4,175



WELL DETAILS: Unit 1-03H

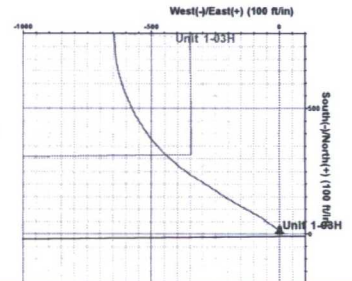
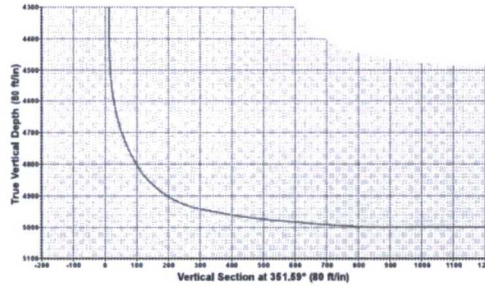
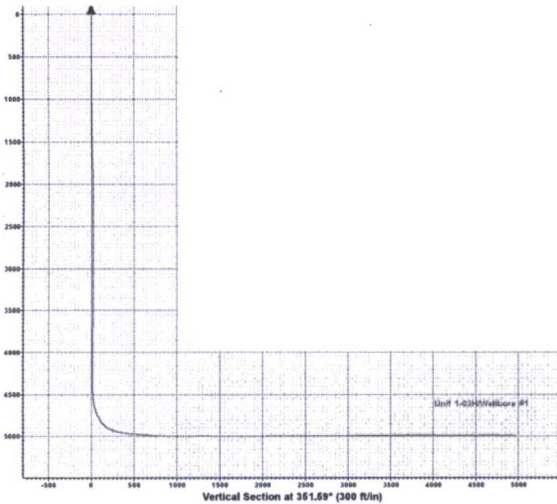
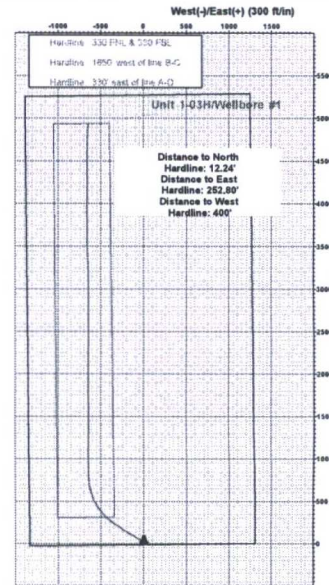
Ground Elevation: 3967.00
RKB Elevation: RT @ 3980.00ft (Original Well Elev)
Rig Name: Original Well Elev
Wellbore: Wellbore #1
Plan: Wellbore #1

Northing	Easting	Latitude	Longitude
889458.740	849514.310	33° 26' 23.36549 N	103° 11' 15.41326 W



Azimuths to Grid North
True North: -0.63°
Magnetic North: 6.17°

Magnetic Field
Strength: 48763.3anT
Dip Angle: 61.19°
Date: 1/18/2017
Model: HDGM



Nautilus Energy LLC

Plug Run # 1

Frac # 2

9,680

Larry 18 SA Unit #1-03H West Sawyer

Field Technician **Julian Orona**

WL Engineer **Rumaldo Pineda**

Co. Man **JR Rojas**

Total Tool String Length (ft) **26**

Setting Tool SN: **106220914**

Plug Part Number **2378**

Plug Type **Ball Drop/Ball in Place**

Contact **432-559-8659**

Contact **325-207-2258**

Contact **575-318-5549**

Plug Serial Number **212619**

Plug OD **4.25**

Cap. from Surf. to KOP & KOP to Plug **93.2 & 111.9**

Min Flush: **305**

Tail Flush: **100**

Plug OD: **4.25**

Casing 1 **5.5" 23#** Casing 2 **5.5" 23#**

Csg ID: **4.670** **4.670**

Drift: **4.545** **4.545**

BBL/Ft: **0.02118603** **0.02118603**

Start Depth: **0** **4,400**

End Depth: **4,400** **9,950**

Reconfig Depths: ☒

No Of Guns: **6**

Offset	Actual Depth
25	Plug: 9680
14	Gun 1: 9648
12	Gun 2: 9616
9.5	Gun 3: 9584
7	Gun 4: 9552
5	Gun 5: 9520
2.5	Gun 6: 9488

M/D/V **4,175**

KOP **4,400**

30 Deg **4,500**

60 Deg **4,700**

90 Deg **4,900**

TVD @ Heel **4,993**

Plug Set Depth: **9,680**

Bbls/100' **6.69**
Total bbls **340**

Max Rate **16**
Max PSI **5,200**

RIH (h:mm) **1:10**
AVG RIH (fpm) **138**

Results from Stage

POOH (h:mm) **0:40**
AVG POOH (fpm) **242**

Total Run Time **1:51**
Run To Run **N/A**

Avg Lateral Speed **258**

Notes:

There was a miscommunication on the paperwork and company man verified that we would be making our first wireline run on stage 2 Setting our plug at 9680 instead of 9903ft.

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE TECHNOLOGY.

Depth

Well PSI before Run **3,200**

Date: **7-Mar**

Setting Tool SN: **106220914**

Plug Part Number **2378**

Plug Type **Ball Drop/Ball in Place**

Plug Serial Number **212619**

Plug OD **4.25**

Description **PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE**

Plug Set		Pump Down	
Stopped @	9716	Max PSI	5,200
Wt Before	1200	Total bbls	340
Wt After	550	Max Rate	16
Sec To set	4	PSI After Last Gun	2535
Set Time	5:32 PM		

		Actual	CCL
+	Plug	9,680.0	9,655.0
-	Gun 1	9,648.0	9,634.0
+	Gun 2	9,616.0	9,604.0
-	Gun 3	9,584.0	9,574.5
+	Gun 4	9,552.0	9,545.0
-	Gun 5	9,520.0	9,515.0
+	Gun 6	9,488.0	9,485.5

BU **-30**
Cor **0**

Grease Pressure
Run In **0** PSI
Run Out **0** PSI
Pulled Out of Hole ☒ **3/7/17 6:13 PM**

PRESSURE DROP, POSSIBLE UNDERBALANCED WELL CONDITIONS

Ball Seat Info	
Ball Seat Rate (BPM)	16
bbls to Seat	204
Min To Seat	18
Cpcty bbls To Plug	205
Column weight (lbs)	71,491
PSI before seat	4802
Max PSI after seat	5060
Ball Action	258

Tested Pressure
Above **Below**

MD **9,950**

TVD @ Toe **4,999**

Nautilus Energy LLC

Plug Run # 2

Frac # 3

9,450

Larry 18 SA Unit #1-03H West Sawyer

Depth

Field Technician **Julian Orona**

WL Engineer **Rumaldo Pineda**

Co. Man **JR Rojas**

Total Tool String Length (ft) **26**

Plug Part Number **2378**

Date: **8-Mar**

Setting Tool SN: **13722892**

Plug Type **Ball Drop/Ball In Place**

Contact **432-559-8659**

Contact **325-207-2258**

Contact **575-318-5549**

Plug Serial Number **212617**

Plug OD **4.25**

Cap. from Surf. to KOP & KOP to Plug **93.2 & 107**

Min Flush: **300**

Tail Flush: **100**

Plug OD: **4.25**

Casing 1 **5.5" 23#**

Casing 2 **5.5" 23#**

Csg ID: **4.670**

Drift: **4.545**

BBL/Ft: **0.02118603**

Start Depth: **0**

End Depth: **4,400**

Reconfig Depths: ☒

No Of Guns: **6**

Offset **Actual Depth**

25 Plug: **9450**

14 Gun 1: **9425**

12 Gun 2: **9393**

9.5 Gun 3: **9361**

7 Gun 4: **9329**

5 Gun 5: **9297**

2.5 Gun 6: **9265**

MJ/DV **4,175**

KOP **4,400**

30 Deg **4,500**

60 Deg **4,700**

90 Deg **4,900**

TVD @ Heel **4,993**

Plug Set Depth: **9,450**

Top Perf from Previous Stage: **9,488**

Results from Stage

Bbls/100' **4.64**
Total bbls **225**

Max Rate **14**
Max PSI **4,000**

RIH (h:mm) **1:45**
AVG RIH (fpm) **90**

POOH (h:mm) **0:49**
AVG POOH (fpm) **193**

Total Run Time **2:35**
Run To Run **16:24:20**

Avg Lateral Speed **281**

Notes:

While pumping down we sat down at 9366ft and plug depth was 9450ft. As we tried to pull up we then realized that we are now stuck at 9284ft. Tried to pump and pull tension and try to get free. Now company man advised wireline engineer to work the line and try and get free at 11:19am. At 12:28pm we set the plug at 9299ft still didnt get free. Shot all 6 guns and pulled free.

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE TECHNOLOGY.

Depth (ft)	Time	Speed (ft/min)	Tension (lbs)	Rate (BPM)	Pressure (PSI)	Fluid Speed (ft/min)	Suggested Run Speed (ft/min)	AV Calc By Plug (ft/min)	Line Wt in Hole (lbs)	Max Line Stretch (ft)
-	10:37 AM	0	205		288	0		-	-	-
1,000	10:37 AM	188	301		288	0		(1,094)	135	2
2,000	10:38 AM	276	305		288	0		(1,607)	270	3
3,000	10:42 AM	275	441		288	0		(1,601)	405	5
4,000	10:45 AM	326	458		288	0		(1,898)	540	6
4,250	10:46 AM	326	478		288	0		(1,898)	574	7
4,500	10:47 AM	357	675	3.	450	142	85	(1,254)	608	7
4,750	10:48 AM	349	640	6.	800	283	170	(383)	641	8
5,000	10:48 AM	309	585	9.	1,500	425	255	674	675	8
5,250	10:49 AM	304	586	12.	2,000	566	340	1,528	709	8
5,750	10:51 AM	301	561	12.	2,000	566	340	1,545	776	9
6,250	10:52 AM	298	565	12.	2,000	566	340	1,562	844	10
6,750	10:54 AM	297	504	12.	2,000	566	340	1,568	911	11
7,250	10:56 AM	292	500	12.	2,000	566	340	1,597	979	12
7,750	10:57 AM	289	489	12.	2,000	566	340	1,615	1,046	12
8,250	10:59 AM	286	505	14.	4,000	661	396	2,182	1,114	13
8,750	11:01 AM	283	520	14.	4,000	661	396	2,199	1,181	14
9,250	11:03 AM	283	545	14.	4,000	661	396	2,199	1,249	15
9,750	11:43 AM	0		12.		566	340	3,297	1,316	16
10,250										

Description **PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE**

Plug Set		Pump Down	
Stopped @	9299	Max PSI	4,000
Wt Before	650	Loss	
Wt After	575	Total bbls	225
Sec To Set		Max Rate	14
Set Time	12:23 PM	PSI After Last Gun	2000

		Actual	CCL
+	Plug	9,450.0	9,425.0
-	Gun 1	9,425.0	9,411.0
+	Gun 2	9,393.0	9,381.0
+	Gun 3	9,361.0	9,351.5
+	Gun 4	9,329.0	9,322.0
-	Gun 5	9,297.0	9,292.0
+	Gun 6	9,265.0	9,262.5

Grease Pressure
BU **-50** Run In **0** PSI
Cor **8** Run Out **0** PSI
Pulled Out of Hole ☒ 3/8/17 1:12 PM

Ball Seat Info
Ball Seat Rate (BPM) **15** Column weight (lbs) **69,793**
bbls to Seat **190** PSI before seat **4500**
Min To Seat **14** Max PSI after seat **5416**
Cpcty bbls To Plug **200** Ball Action **916**

Tested Pressure
Above Below

MD **9,950**

TVD @ Toe **4,999**

Nautilus Energy LLC

Plug Run # 3

Frac # 4

9,234

Larry 18 SA Unit #1-03H West Sawyer

Depth

Well PSI before Run

2,500

Date:

8-Mar

Total Tool String Length (ft)

26

Setting Tool SN:

106220914

Field Technician

Julian Orona

WL Engineer

Rumaldo Pineda

Co. Man

JR Rojas

Plug Part Number

2378

Plug Type

Ball Drop/Ball in Place

Contact

432-559-8659

Contact

325-207-2258

Contact

575-318-5549

Plug Serial Number

212620

Plug OD

4.25

Cap. from Surf. to KOP & KOP to Plug

93.2 & 102.4

Min Flush:

296

Tail Flush:

100

Plug OD:

4.25

Casing 1 Casing 2

5.5" 23# 5.5" 23#

Csg ID:

4.670 4.670

Drift:

4.545 4.545

BBL/Ft:

0.02118603 0.02118603

Start Depth:

0 4,400

End Depth:

4,400 9,950

Reconfig Depths:

☒

No Of Guns:

6

Offset Actual Depth

25 Plug: 9234

14 Gun 1: 9202

12 Gun 2: 9170

9.5 Gun 3: 9136

7 Gun 4: 9106

5 Gun 5: 9074

2.5 Gun 6: 9042

MJ/DV

4,175

KOP

4,400

30 Deg

4,500

60 Deg

4,700

90 Deg

4,900

TVD @ Heel

4,993

Plug Set Depth:

9,234

Top Perf from Previous Stage:

9,265

Results from Stage

Bbls/100'

5.18

Total bbls

240

Max Rate

14

Max PSI

5,455

RIH (h:mm)

0:31

AVG RIH (fpm)

298

POOH (h:mm)

0:27

AVG POOH (fpm)

342

Total Run Time

0:59

Run To Run

3:37:52

Avg Lateral Speed

314

Notes:

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE
TECHNOLOGY.

Description

PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE

Plug Set

Stopped @

9223

Wt Before

500

Wt After

450

Sec To set

5:22 PM

Set Time

5:22 PM

Pump Down

Max PSI

5,455

Total bbls

240

Max Rate

14

PSI After Last Gun

3100

Actual CCL

+ Plug 9,234.0 9,209.0

- Gun 1 9,202.0 9,188.0

+ Gun 2 9,170.0 9,158.0

- Gun 3 9,136.0 9,126.5

+ Gun 4 9,106.0 9,099.0

- Gun 5 9,074.0 9,069.0

+ Gun 6 9,042.0 9,039.5

BU

-50

Cor

8

Grease Pressure

Run In 0 PSI

Run Out 0 PSI

Pulled Out of Hole ☒ 3/8/17 5:50 PM

Ball Seat Info

Ball Seat Rate (BPM)

15

Column weight (lbs)

68,197

bbls to Seat

184

PSI before seat

4917

Min To Seat

14

Max PSI after seat

6196

Cpcty bbls To Plug

196

Ball Action

1279

Tested Pressure

Above

Below

MD

9,950

TVD @ Toe

4,999

Nautilus Energy LLC

Plug Run # 4 Frac # 5 9,011

Larry 18 SA Unit #1-03H West Sawyer

Depth

Well PSI before Run **2,700** Date: **8-Mar**

Total Tool String Length (ft) **26** Setting Tool SN: **13722892**

Field Technician **Julian Orona** WL Engineer **Rumaldo Pineda** Co. Man **JR Rojas** Plug Part Number **2378** Plug Type **Ball Drop/Ball in Place**

Contact **432-559-8659** Contact **325-207-2258** Contact **575-318-5549** Plug Serial Number **212615** Plug OD **4.25**

Cap. from Surf. to KOP & KOP to Plug **93.2 & 97.7**

Min Flush: **291**
Tail Flush: **100**
Plug OD: **4.25**

Casing 1 **5.5" 23#** Casing 2 **5.5" 23#**

Csg ID: **4.670** **4.670**

Drift: **4.545** **4.545**

BBL/Ft: **0.02118603** **0.02118603**

Start Depth: **0** **4,400**

End Depth: **4,400** **9,950**

Reconfig Depths: ☒ No Of Guns: **6**

Offset Actual Depth

25	Plug:	9011
14	Gun 1:	8979
12	Gun 2:	8947
9.5	Gun 3:	8915
7	Gun 4:	8883
5	Gun 5:	8851
2.5	Gun 6:	8819

MJ/DV **4,175**
KOP **4,400**
30 Deg **4,500**
60 Deg **4,700**
90 Deg **4,900**

TVD @ Heel **4,993**

Plug Set Depth: **9,011** Top Perf from Previous Stage: **9,042**

Results from Stage

Bbls/100'	4.74	Max Rate	14	RIH (h:mm)	0:32	POOH (h:mm)	0:32	Total Run Time	1:05	Avg Lateral Speed	316
Total bbls	209	Max PSI	3,610	AVG RIH (fpm)	282	AVG POOH (fpm)	282	Run To Run	1:36:11		

Notes:

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE TECHNOLOGY.

Depth (Ft)	Time	Speed (Ft/Min)	Tension (lbs)	Rate (BPM)	Pressure (PSI)	Fluid Speed (Ft/Min)	Suggested Run Speed (Ft/Min)	AV Calc By Plug (Ft/Min)	Line Wt in Hole (lbs)	Max Line Stretch (Ft)
-	7:26 PM	0	55		2,000	0		-	-	-
1,000	7:32 PM	266	126		2,000	0		(1,548)	135	2
2,000	7:36 PM	302	258		2,000	0		(1,758)	270	3
3,000	7:39 PM	339	352		2,000	0		(1,973)	405	5
4,000	7:42 PM	337	439		2,000	0		(1,962)	540	6
4,250	7:42 PM	340	486		2,000	0		(1,979)	574	7
4,500	7:43 PM	331	556	3.	2,000	142	85	(1,103)	608	7
4,750	7:44 PM	328	551	6.	2,100	283	170	(261)	641	8
5,000	7:45 PM	320	588	9.	2,300	425	255	610	675	8
5,250	7:45 PM	322	590	12.	2,500	566	340	1,423	709	8
5,750	7:47 PM	323	559	14.	2,700	661	396	1,967	776	9
6,250	7:49 PM	317	555	14.	2,700	661	396	2,001	844	10
6,750	7:50 PM	310	540	14.	2,700	661	396	2,042	911	11
7,250	7:52 PM	311	544	14.	2,700	661	396	2,036	979	12
7,750	7:53 PM	308	550	14.	2,700	661	396	2,054	1,046	12
8,250	7:55 PM	307	578	14.	2,700	661	396	2,060	1,114	13
8,750	7:56 PM	301	544	14.	2,700	661	396	2,095	1,181	14
9,250										
9,750										
10,250										

Description **PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE**

Plug Set Pump Down

Stopped @ **9003** Max PSI **3,610**

Wt Before **640** Loss Total bbls **209**

Wt After **480** 160 Max Rate **14**

Sec To set PSI After Last Gun **2400**

Set Time **7:59 PM**

	Actual	CCL
+	Plug	9,011.0 8,986.0
-	Gun 1	8,979.0 8,965.0
+	Gun 2	8,947.0 8,935.0
-	Gun 3	8,915.0 8,905.5
+	Gun 4	8,883.0 8,876.0
-	Gun 5	8,851.0 8,846.0
+	Gun 6	8,819.0 8,816.5

Grease Pressure

BU **-50** Run In **0** PSI

Cor **6** Run Out **0** PSI

Pulled Out of Hole ☒ 3/8/17 8:31 PM

Ball Seat Info

Ball Seat Rate (BPM) Column weight (lbs) **66,550**

bbls to Seat PSI before seat

Min To Seat Max PSI after seat

Cpcty bbls To Plug **191** Ball Action **0**

Tested Pressure

Above Below

MD **9,950**
TVD @ Toe **4,999**

Nautilus Energy LLC

Larry 18 SA Unit #1-03H West Sawyer

Plug Run # 5

Frac # 6

8,788

Depth

Field Technician **Arnold Ochoa**

WL Engineer **Rumaldo Pineda**

Co. Man **JR Rojas**

Total Tool String Length (ft) **26**

Setting Tool SN: **106220914**

Plug Part Number **2378**

Plug Type **Ball Drop/Ball in Place**

Contact **346-400-1002**

Contact **325-207-2258**

Contact **575-318-5549**

Plug Serial Number **212623**

Plug OD **4.25**

Cap. from Surf.
to KOP & KOP
to Plug **93.2 & 93**

Min Flush: **286**

Tail Flush: **100**

Plug OD: **4.25**

Casing 1 **5.5" 23#** Casing 2 **5.5" 23#**

Csg ID: **4.670** **4.670**

Drift: **4.545** **4.545**

BBL/Ft: **0.02118603** **0.02118603**

Start Depth: **0** **4,400**

End Depth: **4,400** **9,950**

Reconfig Depths: ☒

No Of Guns: **6**

Offset	Actual Depth
25	Plug: 8788
14	Gun 1: 8760
12	Gun 2: 8724
9.5	Gun 3: 8692
7	Gun 4: 8660
5	Gun 5: 8628
2.5	Gun 6: 8596

M/DV **4,175**

KOP **4,400**

30 Deg **4,500**

60 Deg **4,700**

90 Deg **4,900**

TVD @ Heel **4,993**

Bbls/100' **4.58**
Total bbls **192**

Max Rate **14**
Max PSI **3,179**

RIH (h:mm) **0:29**
AVG RIH (fpm) **303**

POOH (h:mm) **0:29**
AVG POOH (fpm) **303**

Total Run Time **0:58**
Run To Run **16:00:08**

Avg Lateral Speed **315**

Notes:

Tension did not seem right but collar stretch looked ok and hydraulic tension Stayed steady around 550 lbs. I asked engineer about the digital tension and he stated that it was messed up and not working correctly. Were also RIH without anything to correlate to so i asked engineer to at least put up the pass from the fist collar log ran

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE
TECHNOLOGY.

Depth (ft)	Time	Speed (ft/min)	Tension (lbs)	Rate (BPM)	Pressure (PSI)	Fluid Speed (ft/min)	Suggested Run Speed (ft/min)	AV Calc By Plug (ft/min)	Line Wt in Hole (lbs)	Max Line Stretch (ft)
-	12:32 PM	0	517		2,700	0		-	-	-
1,000	12:36 PM	284	1012		2,700	0		(1,653)	135	2
2,000	12:40 PM	303	803		2,700	0		(1,764)	270	3
3,000	12:43 PM	342	889		2,700	0		(1,991)	405	5
4,000	12:46 PM	344	1045		2,700	0		(2,003)	540	6
4,250	12:46 PM	341	1045		2,700	0		(1,985)	574	7
4,500	12:47 PM	355	1221	3.	2,700	142	85	(1,242)	608	7
4,750	12:48 PM	355	1045	6.	1,800	283	170	(418)	641	8
5,000	12:48 PM	326	1045	9.	2,000	425	255	575	675	8
5,250	12:49 PM	327	1221	14.	2,500	661	396	1,943	709	8
5,750	12:51 PM	323	1045	14.	2,500	661	396	1,967	776	9
6,250	12:52 PM	319	1045	14.	2,500	661	396	1,990	844	10
6,750	12:54 PM	313	1045	14.	2,500	661	396	2,025	911	11
7,250	12:55 PM	314	1045	14.	2,500	661	396	2,019	979	12
7,750	12:57 PM	309	1045	14.	2,500	661	396	2,048	1,046	12
8,250	12:59 PM	307	1121	14.	2,500	661	396	2,060	1,114	13
8,750	1:00 PM	219	1221	14.	2,500	661	396	2,572	1,181	14
9,250	1:59 PM	g		14.	2,500	661	396		1,249	15
9,750										
10,250										

Description

PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE

Plug Set

Stopped @ **8774**

Wt Before **640**

Wt After **560**

Sec To set **11**

Set Time **1:01 PM**

Pump Down

Max PSI **3,179**

Total bbls **192**

Max Rate **14**

PSI After Last Gun **2100**

	Actual	CCL
+	Plug 8,788.0	8,763.0
-	Gun 1 8,760.0	8,746.0
+	Gun 2 8,724.0	8,712.0
-	Gun 3 8,692.0	8,682.5
+	Gun 4 8,660.0	8,653.0
-	Gun 5 8,628.0	8,623.0
+	Gun 6 8,596.0	8,593.5

BU **-50**
Cor **0**

Grease Pressure

Run In **3500** PSI

Run Out **2750** PSI

Pulled Out of Hole ☒ **3/9/17 1:30 PM**

Ball Seat Info

Ball Seat Rate (BPM) 15.3	Column weight (lbs) 64,903
bbls to Seat 172	PSI before seat 3412
Min To Seat 12	Max PSI after seat 5639
Cpcty bbls To Plug 186	Ball Action 2227

Tested Pressure

Above Below

Plug Set Depth: **8,788**

Top Perf from Previous Stage: **8,819**

MD **9,950**

TVD @ Toe **4,999**

Results from Stage

8,565

Date: 9-Mar

Plug Type	Ball Drop/Ball in Place
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Plug OD	4.25
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DOWNHOLE
TECHNOLOGY.

8,342

Plug Serial Number	212627	Plug OD	4.25
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DOWNHOLE
TECHNOLOGY.

Nautilus Energy LLC

Plug Run # 8

Frac # 9

8,119

Larry 18 SA Unit #1-03H West Sawyer

Depth

Well PSI before Run **2,300**

Date: **9-Mar**

Total Tool String Length (ft) **26**

Setting Tool SN: **13722892**

Field Technician **Arnold Ochoa**

WL Engineer **Rumaldo Pineda**

Co. Man **JR Rojas**

Plug Part Number **2378**

Plug Type **Ball Drop/Ball in Place**

Contact **346-400-1002**

Contact **325-207-2258**

Contact **575-318-5549**

Plug Serial Number **212612**

Plug OD **4.25**

Cap. from Surf. to KOP & KOP to Plug **93.2 & 78.8**

Min Flush: **272**

Tail Flush: **100**

Plug OD: **4.25**

Casing 1 **5.5" 23#** Casing 2 **5.5" 23#**

Csg ID: **4.670** **4.670**

Drift: **4.545** **4.545**

BBL/Ft: **0.02118603** **0.02118603**

Start Depth: **0** **4,400**

End Depth: **4,400** **9,950**

Reconfig Depths: ☒

No Of Guns: **6**

Offset	Actual Depth
25	Plug: 8119
14	Gun 1: 8090
12	Gun 2: 8055
9.5	Gun 3: 8023
7	Gun 4: 7991
5	Gun 5: 7959
2.5	Gun 6: 7927

MJ/DV **4,175**

KOP **4,400**

30 Deg **4,500**

60 Deg **4,700**

90 Deg **4,900**

TVD @ Heel **4,993**

Plug Set Depth: **8,119**

Top Perf from Previous Stage: **8,150**

Results from Stage

Bbls/100' **4.29**
Total bbls **151**

Max Rate **14**
Max PSI **2,470**

RIH (h:mm) **0:28**
AVG RIH (fpm) **290**

POOH (h:mm) **0:29**
AVG POOH (fpm) **280**

Total Run Time **0:57**
Run To Run **0:55:08**

Avg Lateral Speed **321**

Notes:

Started recording tension off of analog gauge on this stage

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE TECHNOLOGY.

Depth (Ft)	Time	Speed (Ft/Min)	Tension (lbs)	Rate (BPM)	Pressure (PSI)	Fluid Speed (Ft/Min)	Suggested Run Speed (Ft/Min)	AV Calc By Plug (Ft/Min)	Line Wt in Hole (lbs)	Max Line Stretch (Ft)
-	6:43 PM	0	317		2,300	0		-	-	-
1,000	6:48 PM	302	50		2,300	0		(1,758)	135	2
2,000	6:51 PM	307	110		2,300	0		(1,787)	270	3
3,000	6:54 PM	323	270		2,300	0		(1,880)	405	5
4,000	6:58 PM	329	350		2,300	0		(1,915)	540	6
4,250	6:58 PM	329	390		2,300	0		(1,915)	574	7
4,500	6:59 PM	349	550	3.	1,700	142	85	(1,207)	608	7
4,750	7:00 PM	351	600	6.	1,820	283	170	(395)	641	8
5,000	7:00 PM	318	520	9.	1,900	425	255	622	675	8
5,250	7:01 PM	320	550	14.	2,200	661	396	1,984	709	8
5,750	7:03 PM	319	560	14.	2,200	661	396	1,990	776	9
6,250	7:04 PM	315	560	14.	2,200	661	396	2,013	844	10
6,750	7:06 PM	308	545	14.	2,200	661	396	2,054	911	11
7,250	7:07 PM	307	550	14.	2,200	661	396	2,060	979	12
7,750	7:09 PM	302	550	14.	2,200	661	396	2,089	1,046	12
8,250										
8,750										
9,250										
9,750										
10,250										

Description **PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE**

Plug Set	Pump Down
Stopped @ 8108	Max PSI 2,470
Wt Before 550	Total bbls 151
Wt After 515	Max Rate 14
Sec To set 11	PSI After Last Gun 1920
Set Time 7:12 PM	

	Actual	CCL
+ Plug	8,119.0	8,094.0
- Gun 1	8,090.0	8,076.0
+ Gun 2	8,055.0	8,043.0
- Gun 3	8,023.0	8,013.5
+ Gun 4	7,991.0	7,984.0
- Gun 5	7,959.0	7,954.0
+ Gun 6	7,927.0	7,924.5

BU	Grease Pressure
-50	Run In 3000 PSI
Cor 0	Run Out 2500 PSI
	Pulled Out of Hole ☒ 3/9/17 7:41 PM

Ball Seat Info			
Ball Seat Rate (BPM)	15.8	Column weight (lbs)	59,962
bbls to Seat	163	PSI before seat	2422
Min To Seat	10.5	Max PSI after seat	3254
Cpcty bbls To Plug	172	Ball Action	832

Tested Pressure
Above Below

MD **9,950**

TVD @ Toe **4,999**

Nautilus Energy LLC

Larry 18 SA Unit #1-03H West Sawyer

Plug Run # 9

Frac # 10

Depth

7,896

Field Technician **Arnold Ochoa**

WL Engineer **Rumaldo Pineda**

Co. Man **JR Rojas**

Total Tool String Length (ft)

26

Setting Tool SN:

106220914

Well PSI before Run **2,100**

Date: **9-Mar**

Plug Part Number

2378

Plug Type

Ball Drop/Ball in Place

Contact **346-400-1002**

Contact **325-207-2258**

Contact **575-318-5549**

Plug Serial Number

215162

Plug OD

4.25

Cap. from Surf. to KOP & KOP to Plug 93.2 & 74.1

Min Flush: 267

Tail Flush: 100

Plug OD: 4.25

Casing 1 Casing 2

5.5" 23# 5.5" 23#

Csg ID: 4.670 4.670

Drift: 4.545 4.545

BBL/Ft: 0.02118603 0.02118603

Start Depth: 0 4,400

End Depth: 4,400 9,950

Reconfig Depths: ☐

MJ/DV 4,175

KOP 4,400

30 Deg 4,500

60 Deg 4,700

90 Deg 4,900

TVD @ Heel 4,993

Bbls/100' 4.49

Total bbls 148

Max Rate 14

Max PSI 2,524

RIH (h:mm) 0:27

AVG RIH (fpm) 292

Results from Stage

POOH (h:mm) 0:26

AVG POOH (fpm) 304

Total Run Time 0:54

Run To Run 0:52:14

Avg Lateral Speed

322

Notes:

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE TECHNOLOGY.

Depth (ft)	Time	Speed (ft/min)	Tension (lbs)	Rate (BPM)	Pressure (PSI)	Fluid Speed (ft/min)	Suggested Run Speed (ft/min)	AV Calc By Plug (ft/min)	Line Wt in Hole (lbs)	Max Line Stretch (ft)
-	8:33 PM	0	260	2,100	0	0				
1,000	8:39 PM	304	75	2,100	0	(1,770)			135	2
2,000	8:42 PM	323	120	2,100	0	(1,880)			270	3
3,000	8:45 PM	327	270	2,100	0	(1,904)			405	5
4,000	8:48 PM	338	490	2,100	0	(1,968)			540	6
4,250	8:49 PM	337	580	2,100	0	(1,962)			574	7
4,500	8:50 PM	358	620	3	1,600	142	85	(1,260)	608	7
4,750	8:50 PM	358	600	6	1,750	283	170	(435)	641	8
5,000	8:51 PM	325	570	9	1,920	425	255	581	675	8
5,250	8:51 PM	323	550	14	2,100	661	396	1,967	709	8
5,750	8:53 PM	326	550	14	2,100	661	396	1,949	776	9
6,250	8:55 PM	317	560	14	2,100	661	396	2,001	844	10
6,750	8:56 PM	316	560	14	2,100	661	396	2,007	911	11
7,250	8:58 PM	315	560	14	2,100	661	396	2,013	979	12
7,750	8:59 PM	263	650	14	2,100	661	396	2,316	1,046	12
8,250										
8,750										
9,250										
9,750										
10,250										

Description **PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE**

Plug Set		Pump Down	
Stopped @	7877	Max PSI	2,524
Wt Before	570	Total bbls	148
Wt After	530	Max Rate	14
Sec To set		PSI After Last Gun	1720
Set Time	9:01 PM		

	Actual	CCL
+ Plug	7,896.0	7,871.0
- Gun 1	7,864.0	7,850.0
+ Gun 2	7,832.0	7,820.0
- Gun 3	7,800.0	7,790.5
+ Gun 4	7,768.0	7,761.0
- Gun 5	7,736.0	7,731.0
+ Gun 6	7,704.0	7,701.5

Grease Pressure
BU -50 Run In 2500 PSI
Cor 0 Run Out 2200 PSI
Pulled Out of Hole ☒ 3/9/17 9:28 PM

Ball Seat Info
Ball Seat Rate (BPM) 14.5 Column weight (lbs) 58,316
bbls to Seat 154 PSI before seat 2468
Min To Seat 9.5 Max PSI after seat 5542
Cpcty bbls To Plug 167 Ball Action 3074

Tested Pressure
Above Below

Plug Set Depth: 7,896

Top Perf from Previous Stage: 7,927

MD 9,950

TVD @ Toe 4,999

DOWNHOLE
TECHNOLOGY.

Nautilus Energy LLC

Plug Run # 11 Frac # 12 7,455

Larry 18 SA Unit #1-03H West Sawyer

Field Technician **Arnold Ochoa**

WL Engineer **Rumaldo Pineda**

Co. Man **JR Rojas**

Well PSI before Run **2,300**

Date: **10-Mar**

Total Tool String Length (ft) **26**

Setting Tool SN: **106220914**

Plug Part Number **2378**

Plug Type **Ball Drop/Ball in Place**

Contact **346-400-1002**

Contact **325-207-2258**

Contact **575-318-5549**

Plug Serial Number **212611**

Plug OD **4.25**

Cap. from Surf. to KOP & KOP to Plug **93.2 & 64.7**

Min Flush: **258**

Tail Flush: **100**

Plug OD: **4.25**

Casing 1 **5.5" 23#** Casing 2 **5.5" 23#**

Csg ID: **4.670** 4.670

Drift: **4.545** 4.545

BBL/Ft: **0.02118603** 0.02118603

Start Depth: **0** 4,400

End Depth: **4,400** 9,950

Reconfig Depths: ☒

No Of Guns: **6**

Offset	Actual Depth
25	Plug: 7455
14	Gun 1: 7418
12	Gun 2: 7386
9.5	Gun 3: 7354
7	Gun 4: 7322
5	Gun 5: 7290
2.5	Gun 6: 7258

MI/DV **4,175**

KOP **4,400**

30 Deg **4,500**

60 Deg **4,700**

90 Deg **4,900**

TVD @ Heel **4,993**

Plug Set Depth: **7,455**

Top Perf from Previous Stage: **7,481**

Bbls/100' **4.52**
Total bbls **129**

Max Rate **14**
Max PSI **2,255**

RIH (h:mm) **0:23**
AVG RIH (fpm) **324**

POOH (h:mm) **0:23**
AVG POOH (fpm) **324**

Total Run Time **0:47**
Run To Run **0:49:42**

Avg Lateral Speed **337**

Notes:

lost collars again about 7000

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE TECHNOLOGY.

Depth (ft)	Time	Speed (ft/min)	Tension (lbs)	Rate (BPM)	Pressure (PSI)	Fluid Speed (ft/min)	Suggested Run Speed (ft/min)	AV Calc By Plug (ft/min)	Line Wt in Hole (lbs)	Max Line Stretch (ft)
-	12:03 AM	0	250		2,300	0				
1,000	12:07 AM	336	70		2,300	0		(1,956)	135	2
2,000	12:10 AM	337	240		2,300	0		(1,962)	270	3
3,000	12:13 AM	346	360		2,300	0		(2,014)	405	5
4,000	12:16 AM	342	480		2,300	0		(1,991)	540	6
4,250	12:17 AM	345	490		2,300	0		(2,008)	574	7
4,500	12:17 AM	349	610	3	1,550	142	85	(1,207)	608	7
4,750	12:18 AM	349	560	6	1,620	283	170	(383)	641	8
5,000	12:19 AM	343	540	9	1,750	425	255	476	675	8
5,250	12:19 AM	340	550	14	2,100	661	396	1,868	709	8
5,750	12:21 AM	336	550	14	2,100	661	396	1,891	776	9
6,250	12:22 AM	333	540	14	2,100	661	396	1,908	844	10
6,750	12:24 AM	331	540	14	2,100	661	396	1,920	911	11
7,250	12:26 AM	311	540	14	2,100	661	396	2,036	979	12
7,750										
8,250										
8,750										
9,250										
9,750										
10,250										

Description **PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE**

Plug Set	Pump Down
Stopped @ 7442	Max PSI 2,255
Wt Before 540 Loss	Total bbls 129
Wt After 515 25	Max Rate 14
Sec To set 9	PSI After Last Gun 1600
Set Time 12:27 AM	

	Actual	CCL
+ Plug	7,455.0	7,430.0
- Gun 1	7,418.0	7,404.0
+ Gun 2	7,386.0	7,374.0
- Gun 3	7,354.0	7,344.5
+ Gun 4	7,322.0	7,315.0
- Gun 5	7,290.0	7,285.0
+ Gun 6	7,258.0	7,255.5

Grease Pressure
BU **-50** Run In **3000** PSI
Cor **0** Run Out **2300** PSI
Pulled Out of Hole ☒ 3/10/17 12:51 AM

PRESSURE DROP, POSSIBLE UNDERBALANCED WELL CONDITIONS

Ball Seat Info	
Ball Seat Rate (BPM) 15.6	Column weight (lbs) 55,059
bbls to Seat 145	PSI before seat 2756
Min To Seat 9	Max PSI after seat 6263
Cpcty bbls To Plug 158	Ball Action 3507

Tested Pressure
Above Below

MD **9,950**

TVD @ Toe **4,999**

Results from Stage

Nautilus Energy LLC

Plug Run # 12

Frac # 13

7,230

Larry 18 SA Unit #1-03H West Sawyer

Depth

Field Technician **Julian Orona**

WL Engineer **Rumaldo Pineda**

Co. Man **JR Rojas**

Total Tool String Length (ft) **26**

Well PSI before Run **50**

Date: **10-Mar**

Setting Tool SN: **13722892**

Plug Part Number **2378**

Plug Type **Ball Drop/Ball In Place**

Contact **432-559-8659**

Contact **325-207-2258**

Contact **575-318-5549**

Plug Serial Number **212613**

Plug OD **4.25**

Cap. from Surf. to KOP & KOP to Plug **93.2 & 60**

Min Flush: **253**

Tail Flush: **100**

Plug OD: **4.25**

Casing 1 **5.5" 23#** Casing 2 **5.5" 23#**

Csg ID: **4.670** **4.670**

Drift: **4.545** **4.545**

BBL/Ft: **0.02118603** **0.02118603**

Start Depth: **0** **4,400**

End Depth: **4,400** **9,950**

Reconfig Depths: ☒
No Of Guns: **6**

Offset	Actual Depth
25	Plug: 7230
14	Gun 1: 7195
12	Gun 2: 7163
9.5	Gun 3: 7131
7	Gun 4: 7099
5	Gun 5: 7067
2.5	Gun 6: 7035

MJ/DV **4,175**

KOP **4,400**

30 Deg **4,500**

60 Deg **4,700**

90 Deg **4,900**

TVD @ Heel **4,993**

Plug Set Depth: **7,230**

Top Perf from Previous Stage: **7,258**

Bbls/100' **4.98**
Total bbls **131**

Max Rate **14**
Max PSI **3,646**

RIH (h:mm) **0:24**
AVG RIH (fpm) **301**

POOH (h:mm) **0:24**
AVG POOH (fpm) **301**

Total Run Time **0:48**
Run To Run **9:42:18**

Avg Lateral Speed **319**

Notes:

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE TECHNOLOGY.

Depth (Ft)	Time	Speed (Ft/Min)	Tension (lbs)	Rate (BPM)	Pressure (PSI)	Fluid Speed (Ft/Min)	Suggested Run Speed (Ft/Min)	AV Calc By Plug (Ft/Min)	Line Wt in Hole (lbs)	Max Line Stretch (Ft)
-	10:33 AM	0	75		50	0		-	-	-
1,000	10:36 AM	275	155		50	0		(1,601)	135	2
2,000	10:39 AM	312	201		50	0		(1,816)	270	3
3,000	10:43 AM	318	350		50	0		(1,851)	405	5
4,000	10:46 AM	240	525		50	0		(1,397)	540	6
4,250	10:47 AM	225	610		50	0		(1,310)	574	7
4,500	10:48 AM	288	655	3.	300	142	85	(852)	608	7
4,750	10:49 AM	330	670	6.	700	283	170	(272)	641	8
5,000	10:49 AM	321	650	9.	1,450	425	255	604	675	8
5,250	10:50 AM	326	652	12.	2,000	566	340	1,400	709	8
5,750	10:52 AM	325	701	14.	2,300	661	396	1,955	776	9
6,250	10:53 AM	324	740	14.	2,300	661	396	1,961	844	10
6,750	10:55 AM	321	820	14.	2,300	661	396	1,978	911	11
7,250										
7,750										
8,250										
8,750										
9,250										
9,750										
10,250										

Description **PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE**

Plug Set	Pump Down
Stopped @ 7225	Max PSI 3,646
Wt Before 560 Loss	Total bbls 131
Wt After 490 70	Max Rate 14
Sec To set	PSI After Last Gun 1059
Set Time 10:57 AM	

	Actual	CCL
+	Plug	7,230.0 7,205.0
-	Gun 1	7,195.0 7,181.0
+	Gun 2	7,163.0 7,151.0
-	Gun 3	7,131.0 7,121.5
+	Gun 4	7,099.0 7,092.0
-	Gun 5	7,067.0 7,062.0
+	Gun 6	7,035.0 7,032.5

Grease Pressure
BU **-50** Run In **2500** PSI
Cor **0** Run Out **1000** PSI
Pulled Out of Hole ☒ 3/10/17 11:22 AM

Ball Seat Info
Ball Seat Rate (BPM) **15** Column weight (lbs) **53,397**
bbls to Seat **142** PSI before seat **2892**
Min To Seat **9** Max PSI after seat **4235**
Cpcty bbls To Plug **153** Ball Action **1343**

Tested Pressure
Above Below

MD **9,950**

TVD @ Toe **4,999**

Nautilus Energy LLC

Plug Run # 13 Frac # 14 7,010

Larry 18 SA Unit #1-03H West Sawyer

Field Technician **Julian Orona**

WL Engineer **Rumaldo Pineda**

Co. Man **JR Rojas**

Well PSI before Run **2,400**

Date: **10-Mar**

Total Tool String Length (ft) **26**

Setting Tool SN: **106220914**

Plug Part Number **2378**

Plug Type **Ball Drop/Ball in Place**

Contact **432-559-8659**

Contact **325-207-2258**

Contact **575-318-5549**

Plug Serial Number **212625**

Plug OD **4.25**

Cap. from Surf. to KOP & KOP to Plug **93.2 & 55.3**

Min Flush: **249**

Tail Flush: **100**

Plug OD: **4.25**

Casing 1 **5.5" 23#**

Casing 2 **5.5" 23#**

Csg ID: **4.670**

Drift: **4.545**

BBL/Ft: **0.02118603**

Start Depth: **0**

End Depth: **4,400**

Reconfig Depths: ☒

No Of Guns: **6**

Offset	Actual Depth
25	Plug: 7010
14	Gun 1: 6972
12	Gun 2: 6940
9.5	Gun 3: 6908
7	Gun 4: 6876
5	Gun 5: 6844
2.5	Gun 6: 6812

MJ/DV **4,175**

KOP **4,400**

30 Deg **4,500**

60 Deg **4,700**

90 Deg **4,900**

TVD @ Heel **4,993**

Plug Set Depth: **7,010**

Top Perf from Previous Stage: **7,035**

Bbls/100' **4.98**
Total bbls **120**

Max Rate **14**
Max PSI **3,307**

RIH (h:mm) **0:24**
AVG RIH (fpm) **292**

POOH (h:mm) **0:20**
AVG POOH (fpm) **351**

Total Run Time **0:44**
Run To Run **0:54:26**

Avg Lateral Speed **320**

Notes:

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE TECHNOLOGY.

Depth (Ft)	Time	Speed (Ft/Min)	Tension (lbs)	Rate (BPM)	Pressure (PSI)	Fluid Speed (Ft/Min)	Suggested Run Speed (Ft/Min)	AV Calc By Plug (Ft/Min)	Line Wt In Hole (lbs)	Max Line Stretch (Ft)
-	12:16 PM	0	50		1,400	0			-	-
1,000	12:21 PM	335	145		1,400	0		(1,950)	135	2
2,000	12:24 PM	338	390		1,400	0		(1,968)	270	3
3,000	12:27 PM	341	400		1,400	0		(1,985)	405	5
4,000	12:30 PM	335	515		1,400	0		(1,950)	540	6
4,250	12:31 PM	336	540		1,400	0		(1,956)	574	7
4,500	12:31 PM	354	655	3	1,100	142	85	(1,236)	608	7
4,750	12:32 PM	350	575	6	1,300	283	170	(389)	641	8
5,000	12:33 PM	311	501	9	1,700	425	255	663	675	8
5,250	12:33 PM	311	530	12	2,000	566	340	1,487	709	8
5,750	12:35 PM	309	541	14	2,300	661	396	2,048	776	9
6,250	12:37 PM	305	545	14	2,300	661	396	2,071	844	10
6,750	12:38 PM	301	540	14	2,300	661	396	2,095	911	11
7,250										
7,750										
8,250										
8,750										
9,250										
9,750										
10,250										

Description **PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE**

Plug Set	Pump Down
Stopped @ 7002	Max PSI 3,307
Wt Before 560	Total bbls 120
Wt After 490	Max Rate 14
Sec To set 3	PSI After Last Gun 1750
Set Time 12:41 PM	

	Actual	CCL
+	Plug 7,010.0	6,985.0
-	Gun 1 6,972.0	6,958.0
+	Gun 2 6,940.0	6,928.0
-	Gun 3 6,908.0	6,898.5
+	Gun 4 6,876.0	6,869.0
-	Gun 5 6,844.0	6,839.0
+	Gun 6 6,812.0	6,809.5

Grease Pressure
BU **-50** Run In **2500** PSI
Cor **8** Run Out **1000** PSI
Pulled Out of Hole ☒ 3/10/17 1:01 PM

PRESSURE DROP, POSSIBLE UNDERBALANCED WELL CONDITIONS

Ball Seat Info	
Ball Seat Rate (BPM) 15	Column weight (lbs) 51,772
bbls to Seat 137	PSI before seat 2600
Min To Seat 8	Max PSI after seat 6628
Cpcty bbls To Plug 149	Ball Action 4028
Tested Pressure	
Above	Below

MD **9,950**

TVD @ Toe **4,999**

Results from Stage

Nautilus Energy LLC

Plug Run # 14

Frac # 15

6,781

Larry 18 SA Unit #1-03H West Sawyer

Depth

Well PSI before Run **2,000**

Date: **10-Mar**

Field Technician **Julian Orona**

WL Engineer **Rumaldo Pineda**

Co. Man **JR Rojas**

Total Tool String Length (ft) **26**

Setting Tool SN: **13722892**

Plug Part Number **2378**

Plug Type **Ball Drop/Ball In Place**

Contact **432-559-8659**

Contact **325-207-2258**

Contact **575-318-5549**

Plug Serial Number **212629**

Plug OD **4.25**

Cap. from Surf. to KOP & KOP to Plug **93.2 & 50.4**

Min Flush: **244**
Tail Flush: **100**
Plug OD: **4.25**

Casing 1 **5.5" 23#** Casing 2 **5.5" 23#**

Csg ID: **4.670** **4.670**

Drift: **4.545** **4.545**

BBL/Ft: **0.02118603** **0.02118603**

Start Depth: **0** **4,400**

End Depth: **4,400** **9,950**

Reconfig Depths: ☒

No Of Guns: **6**

Offset	Actual Depth
25	Plug: 6781
14	Gun 1: 6749
12	Gun 2: 6717
9.5	Gun 3: 6685
7	Gun 4: 6653
5	Gun 5: 6621
2.5	Gun 6: 6589

Depth (Ft)	Time	Speed (Ft/Min)	Tension (lbs)	Rate (BPM)	Pressure (PSI)	Fluid Speed (Ft/Min)	Suggested Run Speed (Ft/Min)	AV Calc By Plug (Ft/Min)	Line Wt in Hole (lbs)	Max Line Stretch (Ft)
-	1:58 PM	0	45		2,000	0		-	-	-
1,000	2:02 PM	375	80		2,000	0		(2,183)	135	2
2,000	2:05 PM	368	240		2,000	0		(2,142)	270	3
3,000	2:07 PM	377	380		2,000	0		(2,195)	405	5
4,000	2:10 PM	307	546		2,000	0		(1,787)	540	6
4,250	2:11 PM	289	585		2,000	0		(1,682)	574	7
4,500	2:12 PM	312	780	3.	1,200	142	85	(992)	608	7
4,750	2:12 PM	320	551	6.	1,300	283	170	(214)	641	8
5,000	2:13 PM	310	545	9.	1,500	425	255	668	675	8
5,250	2:14 PM	324	610	12.	1,900	566	340	1,411	709	8
5,750	2:15 PM	314	533	14.	2,200	661	396	2,019	776	9
6,250	2:17 PM	309	540	14.	2,200	661	396	2,048	844	10
6,750	2:19 PM	221	650	14.	2,200	661	396	2,560	911	11
7,250										
7,750										
8,250										
8,750										
9,250										
9,750										
10,250										

Description **PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE**

Plug Set	Pump Down
Stopped @ 6776	Max PSI 2,200
Wt Before 580	Total bbls 101
Wt After 530	Max Rate 14
Sec To set 50	PSI After Last Gun 1293
Set Time 2:20 PM	

	Actual	CCL
+	Plug 6,781.0	6,756.0
-	Gun 1 6,749.0	6,735.0
+	Gun 2 6,717.0	6,705.0
-	Gun 3 6,685.0	6,675.5
+	Gun 4 6,653.0	6,646.0
-	Gun 5 6,621.0	6,616.0
+	Gun 6 6,589.0	6,586.5

BU	Cor	Grease Pressure
-50	0	Run In 2500 PSI
		Run Out 1000 PSI
		Pulled Out of Hole ☒ 3/10/17 2:39 PM

PRESSURE DROP, POSSIBLE UNDERBALANCED WELL CONDITIONS

Ball Seat Info			
Ball Seat Rate (BPM)	15	Column weight (lbs)	50,081
bbls to Seat	135	PSI before seat	2250
Min To Seat	8	Max PSI after seat	4804
Cpcty bbls To Plug	144	Ball Action	2554

Tested Pressure
Above Below

MJ/DV **4,175**
KOP **4,400**
30 Deg **4,500**

60 Deg **4,700**
90 Deg **4,900**

Plug Set Depth: **6,781**

Top Perf from Previous Stage: **6,812**

TVD @ Heel **4,993**

MD **9,950**
TVD @ Toe **4,999**

Bbls/100' **4.63**
Total bbls **101**

Max Rate **14**
Max PSI **2,200**

RIH (h:mm) **0:22**
AVG RIH (fpm) **308**

Results from Stage

POOH (h:mm) **0:19**
AVG POOH (fpm) **357**

Total Run Time **0:41**
Run To Run **0:56:43**

Avg Lateral Speed **301**

Notes:

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE TECHNOLOGY.

Nautilus Energy LLC

Larry 18 SA Unit #1-03H West Sawyer

Plug Run # 15 Frac # 16 6,560

Depth

Field Technician **Julian Orona**

WL Engineer **Rumaldo Pineda**

Co. Man **JR Rojas**

Total Tool String Length (ft) **26**

Setting Tool SN: **106220914**

Well PSI before Run **2,000**

Date: **10-Mar**

Plug Part Number **2378**

Plug Type **Ball Drop/Ball in Place**

Contact **432-559-8659**

Contact **325-207-2258**

Contact **575-318-5549**

Plug Serial Number **212624**

Plug OD **4.25**

Cap. from Surf. to KOP & KOP to Plug
93.2 & 45.8

Min Flush: 239

Tail Flush: 100

Plug OD: 4.25

Casing 1 Casing 2

5.5" 23# 5.5" 23#

Csg ID: 4.670 4.670

Drift: 4.545 4.545

BBL/Ft: 0.02118603 0.02118603

Start Depth: 0 4,400

End Depth: 4,400 9,950

Reconfig Depths: ☒

No Of Guns: 6

Offset	Actual Depth
25	Plug: 6560
14	Gun 1: 6526
12	Gun 2: 6494
9.5	Gun 3: 6462
7	Gun 4: 6430
5	Gun 5: 6398
2.5	Gun 6: 6366

MJ/DV 4,175
KOP 4,400
30 Deg 4,500

60 Deg 4,700
90 Deg 4,900

TVD @ Heel 4,993

Plug Set Depth: 6,560

Top Perf from Previous Stage: 6,589

Results from Stage

Bbls/100' 4.29
Total bbls 84

Max Rate 14
Max PSI 2,728

RIH (h:mm) 0:19
AVG RIH (fpm) 345

POOH (h:mm) 0:17
AVG POOH (fpm) 386

Total Run Time 0:37
Run To Run 0:53:06

Avg Lateral Speed 359

Notes:

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE
TECHNOLOGY.

Depth (ft)	Time	Speed (ft/min)	Tension (lbs)	Rate (BPM)	Pressure (PSI)	Fluid Speed (ft/min)	Suggested Run Speed (ft/min)	AV Calc By Plug (ft/min)	Line Wt in Hole (lbs)	Max Line Stretch (ft)
-	3:32 PM	0	45		2,000	0		-	-	-
1,000	3:35 PM	368	85		2,000	0		(2,142)	135	2
2,000	3:38 PM	362	250		2,000	0		(2,107)	270	3
3,000	3:41 PM	346	400		2,000	0		(2,014)	405	5
4,000	3:44 PM	367	490		2,000	0		(2,136)	540	6
4,250	3:44 PM	370	510		2,000	0		(2,154)	574	7
4,500	3:45 PM	373	560	3.	1,200	142	85	(1,347)	608	7
4,750	3:46 PM	379	562	6.	1,400	283	170	(558)	641	8
5,000	3:46 PM	372	460	9.	1,600	425	255	307	675	8
5,250	3:47 PM	349	520	12.	1,800	566	340	1,266	709	8
5,750	3:48 PM	344	509	14.	2,100	661	396	1,844	776	9
6,250	3:50 PM	339	505	14.	2,100	661	396	1,873	844	10
6,750										
7,250										
7,750										
8,250										
8,750										
9,250										
9,750										
10,250										

Description **PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE**

Plug Set	Pump Down
Stopped @ 6557	Max PSI 2,728
Wt Before 585	Total bbls 84
Wt After 530	Max Rate 14
Sec To set 4	PSI After Last Gun 1250
Set Time 3:52 PM	

	Actual	CCL
+ Plug	6,560.0	6,535.0
- Gun 1	6,526.0	6,512.0
+ Gun 2	6,494.0	6,482.0
- Gun 3	6,462.0	6,452.5
+ Gun 4	6,430.0	6,423.0
- Gun 5	6,398.0	6,393.0
+ Gun 6	6,366.0	6,363.5

Grease Pressure
BU -50 Run In 2500 PSI
Cor 0 Run Out 1000 PSI
Pulled Out of Hole ☒ 3/10/17 4:09 PM

PRESSURE DROP, POSSIBLE UNDERBALANCED WELL CONDITIONS

Ball Seat Info	
Ball Seat Rate (BPM) 15	Column weight (lbs) 48,449
bbls to Seat 129	PSI before seat 2155
Min To Seat 8	Max PSI after seat 4875
Cpcty bbls To Plug 139	Ball Action 2720

Tested Pressure
Above Below

MD 9,950
TVD @ Toe 4,999

Nautilus Energy LLC

Plug Run # 16

Frac # 17

6,340

Larry 18 SA Unit #1-03H West Sawyer

Depth

Well PSI before Run **2,000**

Date: **10-Mar**

Total Tool String Length (ft) **26**

Setting Tool SN: **106220914**

Field Technician **Julian Orona**

WL Engineer **Rumaldo Pineda**

Co. Man **JR Rojas**

Plug Part Number **2378**

Plug Type **Ball Drop/Ball in Place**

Contact **432-559-8659**

Contact **325-207-2258**

Contact **575-318-5549**

Plug Serial Number **212622**

Plug OD **4.25**

Cap. from Surf. to KOP & KOP to Plug **93.2 & 41.1**

Min Flush: **234**

Tail Flush: **100**

Plug OD: **4.25**

Casing 1 **5.5" 23#** Casing 2 **5.5" 23#**

Csg ID: **4.670** **4.670**

Drift: **4.545** **4.545**

BBL/Ft: **0.02118603** **0.02118603**

Start Depth: **0** **4,400**

End Depth: **4,400** **9,950**

Reconfig Depths: ☒
No Of Guns: **6**

Offset	Actual Depth
25	Plug: 6340
14	Gun 1: 6303
12	Gun 2: 6271
9.5	Gun 3: 6239
7	Gun 4: 6207
5	Gun 5: 6175
2.5	Gun 6: 6143

MJ/DV **4,175**
KOP **4,400**
30 Deg **4,500**
60 Deg **4,700**
90 Deg **4,900**

TVD @ Heel **4,993**

Plug Set Depth: **6,340**

Top Perf from Previous Stage: **6,366**

Bbls/100' **4.43**
Total bbls **77**

Max Rate **14**
Max PSI **2,342**

RIH (h:mm) **0:20**
AVG RIH (fpm) **317**

POOH (h:mm) **0:16**
AVG POOH (fpm) **396**

Total Run Time **0:37**
Run To Run **0:50:52**

Avg Lateral Speed **289**

Notes:

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE TECHNOLOGY.

Depth (Ft)	Time	Speed (Ft/Min)	Tension (lbs)	Rate (BPM)	Pressure (PSI)	Fluid Speed (Ft/Min)	Suggested Run Speed (Ft/Min)	AV Calc By Plug (Ft/Min)	Line Wt in Hole (lbs)	Max Line Stretch (Ft)
-	5:00 PM	0	45		2,000	0		-	-	-
1,000	5:05 PM	339	140		2,000	0		(1,973)	135	2
2,000	5:07 PM	374	250		2,000	0		(2,177)	270	3
3,000	5:09 PM	387	305		2,000	0		(2,253)	405	5
4,000	5:12 PM	388	460		2,000	0		(2,259)	540	6
4,250	5:13 PM	385	490		2,000	0		(2,241)	574	7
4,500	5:13 PM	385	500	3.	1,300	142	85	(1,417)	608	7
4,750	5:15 PM	270	556	6.	1,400	283	170	77	641	8
5,000	5:15 PM	290	530	9.	1,500	425	255	785	675	8
5,250	5:16 PM	292	570	12.	1,700	566	340	1,597	709	8
5,750	5:17 PM	276	545	14.	1,800	661	396	2,240	776	9
6,250	5:19 PM	220	595	14.	1,800	661	396	2,566	844	10
6,750										
7,250										
7,750										
8,250										
8,750										
9,250										
9,750										
10,250										

Description **PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE**

Plug Set	Pump Down
Stopped @ 6334	Max PSI 2,342
Wt Before 575 Loss	Total bbls 77
Wt After 510 65	Max Rate 14
Sec To set	PSI After Last Gun 2180
Set Time 5:21 PM	

	Actual	CCL
+	Plug 6,340.0	6,315.0
-	Gun 1 6,303.0	6,289.0
+	Gun 2 6,271.0	6,259.0
-	Gun 3 6,239.0	6,229.5
+	Gun 4 6,207.0	6,200.0
-	Gun 5 6,175.0	6,170.0
+	Gun 6 6,143.0	6,140.5

Grease Pressure
BU **-50** Run In **2500** PSI
Cor **0** Run Out **1000** PSI
Pulled Out of Hole ☒ **3/10/17 5:37 PM**

Ball Seat Info
Ball Seat Rate (BPM) **15** Column weight (lbs) **46,824**
bbls to Seat **124** PSI before seat **1950**
Min To Seat **7** Max PSI after seat **5323**
Cpcty bbls To Plug **134** Ball Action **3373**

Tested Pressure
Above Below

MD **9,950**
TVD @ Toe **4,999**

Nautilus Energy LLC

Larry 18 SA Unit #1-03H West Sawyer

Plug Run # 17 Frac # 18 6,112

Depth

Well PSI before Run **1,500** Date: **10-Mar**

Total Tool String Length (ft) **26** Setting Tool SN: **106220914**

Field Technician **Julian Orona**

WL Engineer **Rumaldo Pineda**

Co. Man **JR Rojas**

Plug Part Number **2378**

Plug Type **Ball Drop/Ball in Place**

Contact **432-559-8659**

Contact **325-207-2258**

Contact **575-318-5549**

Plug Serial Number **212626**

Plug OD **4.25**

Cap. from Surf. to KOP & KOP to Plug 93.2 & 36.3

Min Flush: 229

Tail Flush: 100

Plug OD: 4.25

Casing 1 5.5" 23# Casing 2 5.5" 23#

Csg ID: 4.670 4.670

Drift: 4.545 4.545

BBL/Ft: 0.02118603 0.02118603

Start Depth: 0 4,400

End Depth: 4,400 9,950

Reconfig Depths: ☒

No Of Guns: 6

Offset	Actual Depth
25	Plug: 6112
14	Gun 1: 6080
12	Gun 2: 6048
9.5	Gun 3: 6016
7	Gun 4: 5984
5	Gun 5: 5952
2.5	Gun 6: 5920

MJ/DV 4,175
KOP 4,400
30 Deg 4,500

60 Deg 4,700
90 Deg 4,900

TVD @ Heel 4,993

Plug Set Depth: 6,112

Top Perf from Previous Stage: 6,143

Bbls/100' 4.03
Total bbls 61

Max Rate 14
Max PSI 2,356

RIH (h:mm) 0:18
AVG RIH (fpm) 340

POOH (h:mm) 0:18
AVG POOH (fpm) 340

Total Run Time 0:37
Run To Run 0:51:27

MD 9,950
TVD @ Toe 4,999

Results from Stage

Notes:

This sheet is to be completely filled out, then printed and handed to company representative after each stage.

DOWNHOLE TECHNOLOGY.

Depth (ft)	Time	Speed (ft/min)	Tension (lbs)	Rate (BPM)	Pressure (PSI)	Fluid Speed (ft/min)	Suggested Run Speed (ft/min)	AV Calc By Plug (ft/min)	Line Wt In Hole (lbs)	Max Line Stretch (ft)
-	6:29 PM	0	30		1,500	0				
1,000	6:33 PM	373	109		1,500	0		(2,171)	135	2
2,000	6:35 PM	379	225		1,500	0		(2,206)	270	3
3,000	6:38 PM	375	360		1,500	0		(2,183)	405	5
4,000	6:40 PM	372	473		1,500	0		(2,166)	540	6
4,250	6:41 PM	374	490		1,500	0		(2,177)	574	7
4,500	6:42 PM	399	620	3.	1,200	142	85	(1,498)	608	7
4,750	6:42 PM	399	580	6.	1,300	283	170	(674)	641	8
5,000	6:43 PM	380	500	9.	1,700	425	255	261	675	8
5,250	6:44 PM	346	535	14.	2,100	661	396	1,833	709	8
5,750	6:45 PM	347	529	14.	2,100	661	396	1,827	776	9
6,250										
6,750										
7,250										
7,750										
8,250										
8,750										
9,250										
9,750										
10,250										

Description **PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE**

Plug Set	Pump Down
Stopped @ 6113	Max PSI 2,356
Wt Before 565	Total bbls 61
Wt After 500	Max Rate 14
Sec To set 65	PSI After Last Gun 1362
Set Time 6:47 PM	

	Actual	CCL
+ Plug	6,112.0	6,087.0
- Gun 1	6,080.0	6,066.0
+ Gun 2	6,048.0	6,036.0
- Gun 3	6,016.0	6,006.5
+ Gun 4	5,984.0	5,977.0
- Gun 5	5,952.0	5,947.0
+ Gun 6	5,920.0	5,917.5

Grease Pressure
BU **-50** Run In **2500** PSI
Cor **0** Run Out **1000** PSI
Pulled Out of Hole ☒ 3/10/17 7:06 PM

Ball Seat Info
Ball Seat Rate (BPM) **15** Column weight (lbs) **45,140**
bbls to Seat **117** PSI before seat **1920**
Min To Seat **7** Max PSI after seat **6064**
Cpcty bbls To Plug **129** Ball Action **4144**

Tested Pressure
Above Below

Nautilus Energy LLC

Plug Run # 18

Frac # 19

5,889

Larry 18 SA Unit #1-03H West Sawyer

Depth

Well PSI before Run **1,500**

Date: **10-Mar**

Total Tool String Length (ft) **26**

Setting Tool SN: **106220914**

Field Technician **Julian Orona**

WL Engineer **Rumaldo Pineda**

Co. Man **JR Rojas**

Plug Part Number **2378**

Plug Type **Ball Drop/Ball in Place**

Contact **432-559-8659**

Contact **325-207-2258**

Contact **575-318-5549**

Plug Serial Number **212610**

Plug OD **4.25**

Cap. from Surf. to KOP & KOP to Plug **93.2 & 31.5**

Min Flush: **225**

Tail Flush: **100**

Plug OD: **4.25**

Casing 1 **5.5" 23#** Casing 2 **5.5" 23#**

Csg ID: **4.670** **4.670**

Drift: **4.545** **4.545**

BBL/Ft: **0.02118603** **0.02118603**

Start Depth: **0** **4,400**

End Depth: **4,400** **9,950**

Reconfig Depths: ☒

No Of Guns: **6**

Offset Actual Depth

25 Plug: **5889**

14 Gun 1: **5857**

12 Gun 2: **5825**

9.5 Gun 3: **5793**

7 Gun 4: **5761**

5 Gun 5: **5729**

2.5 Gun 6: **5697**

MI/DV **4,175**

KOP **4,400**

30 Deg **4,500**

60 Deg **4,700**

90 Deg **4,900**

TVD @ Heel **4,993**

Plug Set Depth: **5,889**

Top Perf from Previous Stage: **5,920**

Bbls/100' **4.19**
Total bbls **54**

Max Rate **14**
Max PSI **2,846**

RIH (h:mm) **0:19**
AVG RIH (fpm) **310**

POOH (h:mm) **0:16**
AVG POOH (fpm) **368**

Total Run Time **0:35**
Run To Run **0:56:19**

Avg Lateral Speed **362**

Notes:

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DOWNHOLE TECHNOLOGY.

Depth (Ft)	Time	Speed (Ft/Min)	Tension (lbs)	Rate (BPM)	Pressure (PSI)	Fluid Speed (Ft/Min)	Suggested Run Speed (Ft/Min)	AV Calc By Plug (Ft/Min)	Line Wt in Hole (lbs)	Max Line Stretch (Ft)
-	8:02 PM	0	40		1,500	0		-	-	-
1,000	8:06 PM	322	155		1,500	0		(1,874)	135	2
2,000	8:09 PM	340	260		1,500	0		(1,979)	270	3
3,000	8:12 PM	356	590		1,500	0		(2,072)	405	5
4,000	8:15 PM	353	590		1,500	0		(2,055)	540	6
4,250	8:16 PM	354	510		1,500	0		(2,061)	574	7
4,500	8:17 PM	386	625	3.	1,000	142	85	(1,423)	608	7
4,750	8:17 PM	385	635	6.	1,200	283	170	(593)	641	8
5,000	8:18 PM	373	505	9.	1,500	425	255	302	675	8
5,250	8:18 PM	345	495	12.	1,900	566	340	1,289	709	8
5,750	8:20 PM	320	525	14.	2,500	661	396	1,984	776	9
6,250										
6,750										
7,250										
7,750										
8,250										
8,750										
9,250										
9,750										
10,250										

Description **PLUG, 4.250, ECO BOSS, BALL DROP/BALL IN PLACE**

Plug Set		Pump Down	
Stopped @	5895	Max PSI	2,846
Wt Before	555	Total bbls	54
Wt After	500	Max Rate	14
Sec To set		PSI After Last Gun	900
Set Time	8:21 PM		

		Actual	CCL
+	Plug	5,889.0	5,864.0
-	Gun 1	5,857.0	5,843.0
+	Gun 2	5,825.0	5,813.0
-	Gun 3	5,793.0	5,783.5
+	Gun 4	5,761.0	5,754.0
-	Gun 5	5,729.0	5,724.0
+	Gun 6	5,697.0	5,694.5

BU ***50** Grease Pressure
Cor **0** Run In **2000** PSI
Run Out **1000** PSI
Pulled Out of Hole ☒ 3/10/17 8:38 PM

Ball Seat Info
Ball Seat Rate (BPM) **15** Column weight (lbs) **43,493**
bbls to Seat **110** PSI before seat **2150**
Min To Seat **6** Max PSI after seat **4858**
Cpcty bbls To Plug **125** Ball Action **2708**

Tested Pressure
Above Below

MD **9,950**

TVD @ Toe **4,999**