Form 3160-5 (June 2015)

# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT HOBBS OCD INDRY NOTICES AND REPORTS ON WELLS

FORM APPROVED OMB NO. 1004-0137 Expires: January 31, 2018

5. Lease Serial No. NMNM20979

SUNDAT NUTICES AND REPORTS ON WELLS	_	
Do not use this form for proposals to drill or to re-enter en	3	วกเนิ
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such probosals.	U	7013

abandoned we	ii. Use form 3160-3 (APD) for s	uch proposals.	6. If Indian, Allo	ottee or Tribe Name
SUBMIT IN	TRIPLICATE - Other instruction	s on paRECEIV	ED 7. If Unit or CA	/Agreement, Name and/or No.
1. Type of Well			8. Well Name an	d No. 4 STATE FED COM 14H
② Oil Well ☐ Gas Well ☐ Oth  2. Name of Operator		MORRIS	9. API Well No.	
CAZA OPERATING LLC	E-Mail: steve.morris@mord		30-025-464	
3a. Address 200 N LORRAINE ST 1550 MIDLAND, TX 79701	3b. Ph Ph: 9	one No. (include area code) 85-415-9729		ol or Exploratory Area E SPRING SOUTH
4. Location of Well (Footage, Sec., T	., R., M., or Survey Description)		11. County or Pa	arish, State
Sec 19 T20S R35E Mer NMP 32.552615 N Lat, 103.496198	SWSE 450FSL 2514FEL W Lon		LEA COUN	ITY, NM
12. CHECK THE AF	PPROPRIATE BOX(ES) TO IN	DICATE NATURE OI	F NOTICE, REPORT, OR	OTHER DATA
TYPE OF SUBMISSION		. TYPE OF	ACTION	
Notice of Intent	☐ Acidize [	☐ Deepen	☐ Production (Start/Resum	e)
	☐ Alter Casing [	Hydraulic Fracturing	□ Reclamation	■ Well Integrity
☐ Subsequent Report	☐ Casing Repair [	☐ New Construction	□ Recomplete	Other
☐ Final Abandonment Notice	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	,
	☐ Convert to Injection [	] Plug Back	■ Water Disposal	
well. Set whipstock and side to Attached are detailed operation.		ie stuck and then parte	u. Plugged back	
14. I hereby certify that the foregoing is	Electronic Submission #495401	verified by the BLM Well TING LLC, sent to the I		
Name (Printed/Typed) STEVE N	MORRIS	Title ENGINE	ER	
Signature (Electronic S	Submission)	Date 12/11/20	019	
	THIS SPACE FOR FEL	DERAL OR STATE	OFFICE USE	
Approved By		Title		Date
Conditions of approval, if any, are attache ertify that the applicant holds legal or equ	itable title to those rights in the subject	ant or		•
certify that the applicant holds legal or equivalent would entitle the applicant to conduct the second that the second second that is the second second that the second second that the second second that the second secon	uct operations thereon. U.S.C. Section 1212, make it a crime for	Office	willfully to make to any departm	ent or agency of the United

(Instructions on page 2)



#### **CASING & CEMENT REPORT**

HOBBS OCD

	Petroleu	m			CA	SING &	CEM	ENI	KEPURT			RE		- 20	119
NELL/JO	B INFORMATI	ON												•	
		Igloo 19-24 Sta			m 14	4H		API N	lumber: 30	-025-4641	2				U
		Lea; 2nd Bone	•							t Bone Spri	ng				
	rface Location:			M 4	450	FSL & 2514	FEL		g AFE #:						
(	County / State:	Lea, New Mexi	ico					Drillin	g AFE \$: \$3	,286,752					
ASING S	UMMARY														
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Mud Ty	/pe:												4		
Pre	e-flush Volume	, Type & Weigh	it:		20		wat	ter		8					
		Cement S	acks			Туре		W	t. (PPG)	Wtr (G	ial/sk)	Yield (	CF/Sk)	Volu	ıme (CF
		1080	)			Н			12.90	10.	84	1.9	97	3	16.00
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dditives					_							1.		L	
Additives														L	
additive3	Stage #	1	1	Lead		Mixing:		7.5	bbl/min	1	Dis	placing:	7	.5	bbl/m
Displa	acement Fluid:	Water	+			splacement:	··-	290	bbls.	Actu	al Displa			90	bbls.
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	Cmt Returns:	300	—-	bbls		I									
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·	Stage #	1	7	Tail		Mixing:		7.5	bbl/min	Time		placing:		.5	bbl/m
Displa	acement Fluid:		-   -		. Dis	splacement:		290	bbls.	Actu	al Displa			90	bbls.
	Mud Returns:	100%	%	T							p				
	Cmt Returns:	YES		bbls		1									
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	Final Circ Pressu	•		psi	Bu	ımp Plug w/		.040	psi	Time		-	Date:	11/27	7/2019
•	Stage #			15.		Mixing:		<b>.</b>	bbl/min	1		placing:	<del>- 400.</del>	<u> / /</u>	bbl/m
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F-4:	ated Cement T		•	, .			ft.w/			- <sub>1</sub>	excess				
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F	Final Circ Pressu Faiting on Ceme		8			Hours		art Time		9:00	End Ti	me:		17:00	
F			8			Hours Centralize				9:00	Ena III	me:	•	17.00	
F W		ent:	8						marks	ered By:	Ena III	me:	•	17.00	



# ENERGY SERVICES LLC

**DESIGN - EXECUTE - EVALUATE - REPORT** 

**PLUG TO ABANDON** 

HOBBS OCD

DEC 1 3 2019

**CAZA** 

RECEIVED

IGLOO 19 24 STATE FEDERAL COM #14H
LEA, NEW MEXICO

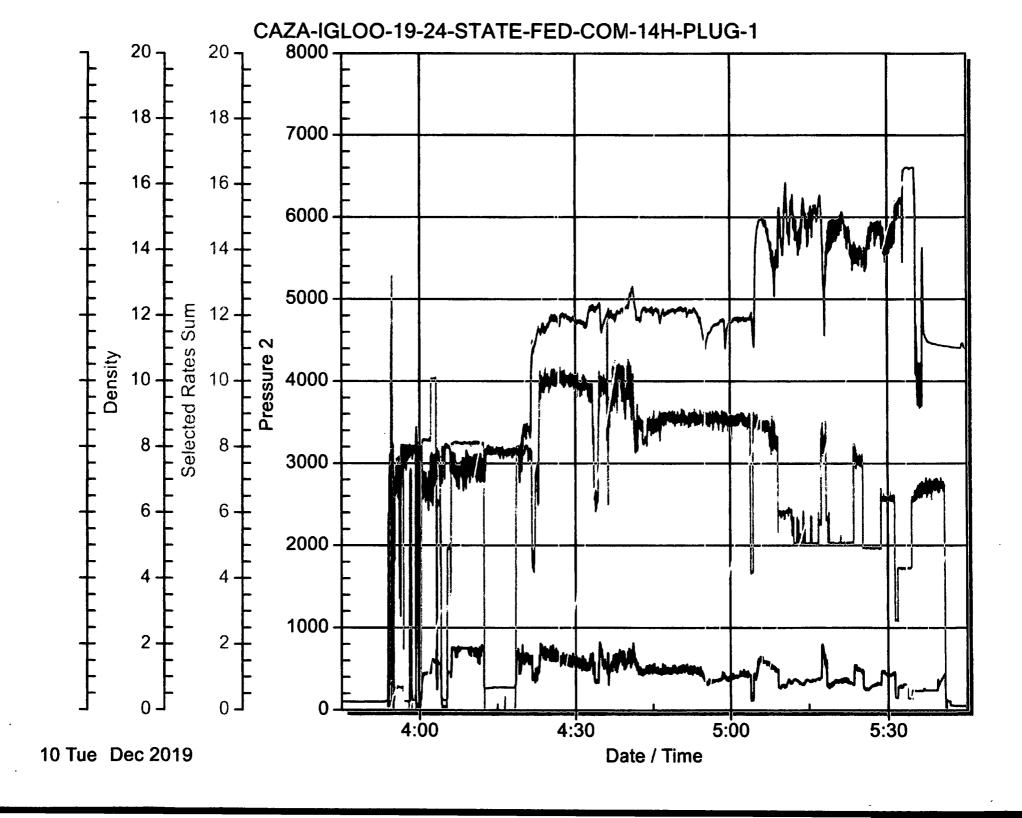
PRIMARY PUMP: SECONDARY PUMP:

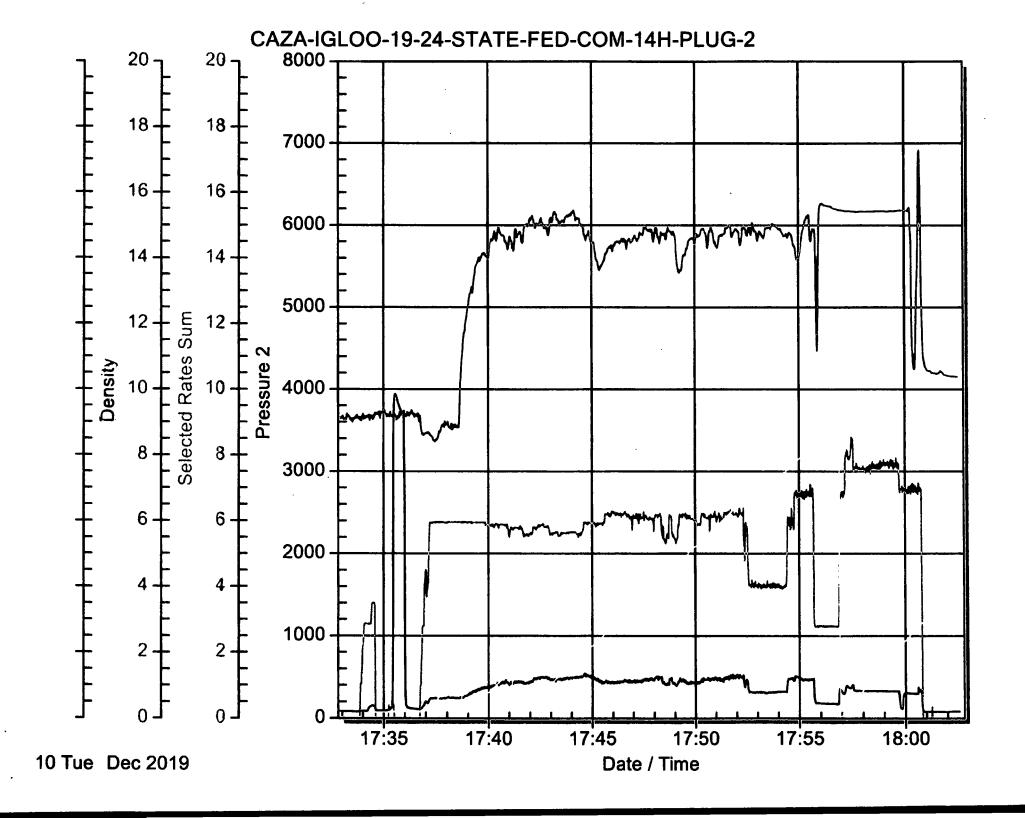
2019

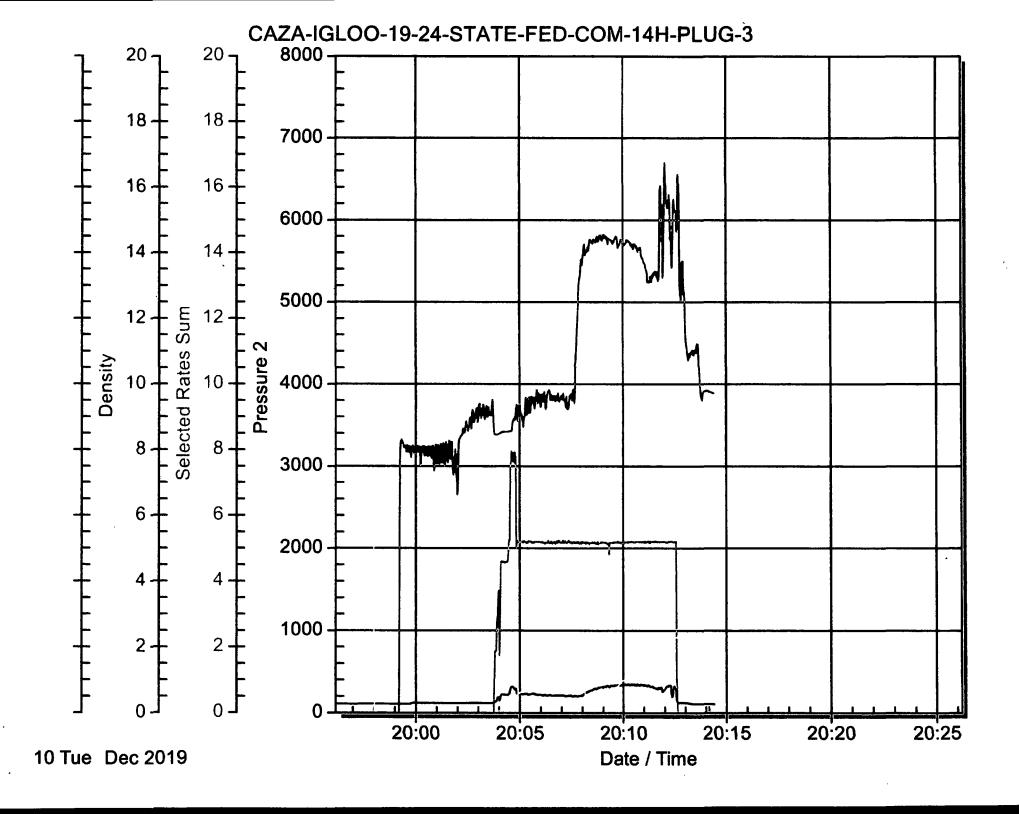
PREPARED BY:DANIEL MORENO

SERVICE SUPERVISOR
ARTESIA DISTRICT
1-575-748-8610

12/10/2019









#### Par Five Energy Services, LLC

ART19-11249-03R

ENERGY SERVICES LLC

11279 Lovington Hwy Artesia , NM

Phone(575)748-8610 Fax: (575) 748-8625

Customer: Caza Operating

MD: 3900

Report Date: November 26 2019

Well Name: Igloo 19 24 State Fed Com 14H

TVD: 3900

Stage: 2nd Stage Lead

County: Lea

State: NM

BHST: 111

String: Intermediate

Rig: Nabors M51

BHCT: 92

Blend Type:

Pilot Blend

Salesman: Kurt Crowe

Donort

Reported By: Rodriguez, Sonny

Density: 11.90 ppg

Yield: 2.36 cuft/sk

Mix Fluid: 12.833 gal/sk

Cement B	lend:	50/50	PliteC		
Additive PF-044	Concent 5.000		Design BWOW	<b>Description</b> Salt	Lot Number G3CB09
PF-020	10.00%	%	BWOB	Bentonite Gel	Bulk
PF-013	0.20%	%	BWOB	Retarder	MM02C-2752BK
PF-153	0.10%		BWOB	Anti Settling Agent	
PF-062	3.000	lb/sk	BWOB	Extender	
PF-042	3.000	lb/sk	BWOB	KOLSEAL	BulK
PF-045	0.400	lb/sk	BWOB	Defoamer	201304AC
_					

		* * *	:	17.12	·: '		
Temp	3	6	100	200	300	PV	ΥP
80 °F	7.5	8.5	13.5	19.5	24	15.75	8.25
92 °F	19.5	23.5	59.5	67.5	74	21.75	52.25

			1000	1.5		
Temp	POD	30 Bc	50 Bc	70 Bc	100 Bc	Batch Time
92 °F	4:40	5:23	5:45	6:20	_	0
	-	Thickening	Time doe	s not inclu	ude batch	time.

		2 2 0.		
Temp	Incl.	ml Collected	Start Time	Stop Time
 92 °F	0	2 ml/250	8:03	10:03

		1	111 + 1			·
Temp	50 psi	500 psi	12 hr	24 hr	48 hr	72 hr
111	6:25		146	231		

# JOB LOG



# ENERGY SERVICES LLC

COMPANY N	AME:	CAZA			DATE: 12/10/2019
LEASE NAME	:	IGLOO 1	9 24 STATE	FED COM	TICKET NUMBER: 9994
WELL NUMB	ER:	14H			JOB TYPE: PLUG TO ABANDON
SCHEDULED	LOCATIO	N TIME	L(	OAD AND G	0
TIME ARRIVE	D ON LO	CATION		1:00	TIME LEFT LOCATION 22:30
·					
22:45					PRE-CONVOY MEETING
23:00					DEPARTURE FROM YARD
1:00					ARRIVE LOCATION
1:05					HAZZARD ASSESMENT
1:10					PRE-RIG UP MEETING
1:15					RIG UP EQUIPMENT
3:40					PRE JOB SAFETY MEETING
3:57	370		2	7	PRIME LINES
3:58	3400				TEST LINES
4:00	400		70	8	FRESH WATER
4:18	551		316	8	LEAD
5:04	568		190	8	TAIL
5:33	241		44	6.5	DISPLACEMENT
5:42					SHUTDOWN
					TAGGED CEMENT AT 2905 FT
					PLUG 2 SET AT 2100 FT
17:34	120		2	8	PRIME LINES
17:35	3400				TEST LINES
17:37	240		10	6	FRESH WATER
17:39	256		91	6	CEMENT
17:56	393		31.5	8	DISPLACEMENT
18:02					SHUTDOWN
					SET 3RD PLUG AT 100 FT
20:03			20	5	FRESH WATER
20:08	300		15	5	CEMENT
20:12					SHUTDOWN
					CIRCULATED 2 BBLS/8 SKS OF CEMENT TO SURFACE
20:25					RIG DOWN SAFETY MEETING
20:30					RIG DOWN EQUIPMENT
			-		
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### ENERGY SERVICES LLC

RIG NAME: NABORS	M51	COMPANY	REP:	15-511		PHONE#:	
COUNTY: LEA			STATE:	NEW ME	KICO		
SECTION:		TOWNSHI	P:			RANGE:	
API NUMBER:	42-227-39632		AFE NUM	BER:			
WELL NUMBER:	14H		TICKET NU	JMBER:	9994		
LEASE NAME:	IGLOO 19 24 STATE F	ED COM	OPERATO	R NAME:	CAZA		
COMPANY NAME:	CAZA		DATE:	12/10/20	19		

PROPER PPE

PUMP 752 SKS LEAD PUMP 800 SKS TAIL

DISPLACE SHUTDOWN



#### ENERGY SERVICES LLC

		I WALES					•		
JOB TYPE: PLUG TO	ABANDON	-		HOLE SIZE		20			
TOTAL DEPTH:	3808	<del></del>		<del></del>	CASING SIZ	'E:	13 3/8		
PREVIOUS CASING LE	3/FT:	54.5		PREVIOUS CASING DEPTH: 1923					
CASING SIZE:									
CASING LB/FT:		<u> </u>		CASING G	RADE:				
FLOAT COLLAR DEPT	H			SHOE JOIN	T LENGTH:	· -·· - · · · · · · · · · · · · · · · ·			
DV TOOL DEPTH:	·			SECOND D	V TOOL DE	PTH:			
TOTAL DEPTH:	3808			TOTAL CA	SING:				
				1 1 42	1.				
TBG/D.P. SIZE:	5			TBG/D.P. I	DEPTH:	3764			
TBG/D.P. LB/FT:	19.5			TOOL DEP	TH:				
PACKER OR RETAINE	R			PERF/HOL	E DEPTH:				
<b>CEMENT HEAD SIZE:</b>				QUICK COI	NNECT SIZE:				
DRILL PIN SIZE/TYPE:				THREAD:					
<b>TUBING SWEDGE SIZ</b>	E			<b>TAKE 2 -2</b>	INCH REGU	LAR TUBING	SWEDGES		
				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
600# SUGAR					•				
	1			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
SUPERVISOR:				FIELD REPI	RESENTATIV	/E:			
PUMP OPERATOR:	Josh Castil	las		UNIT NUM	IBER:	1047-2019			
E/O:				UNIT NUM	IBER:	1030-2046	/RONNIE SPANGLER		
E/O:		· - · · - · · - · · · - · · · · · · · ·		UNIT NUN	IBER:	1046-2062	/RUBEN SANCHEZ		
E/O:	Jose Velas	quez		UNIT NUN	IBER:	1015-2037			
E/O:				UNIT NUM		DANIEL MO	DRENO		
				4.00/ 0.00/0.0		2/2/2/2/			
1ST SLURRY:	1 '	•		•	NTONITE}+.2% .)+.4#/SK PF45	•	ER)+.1% PF153(ANTI SETTLING		
DENSITY: 11.9	YIELD:	2.36	MIX H2O:		SACKS:	(SCI SAIMEN)	752		
2ND SLURRY:	C+2% PF1 CA	TCIOM CHLO	RIDE						
DENSITY: 14.8	YIELD:	1.34	MIX H2O:	6.3	SACKS:		800		
3RD SLURRY:	C+2% PF1 CA	LCIUM CHLO							
DENSITY: 14.8	YIELD:	1.34	MIX H2O:	6.3	SACKS:		385		
4TH SLURRY:	C+2% PF1 CA	LCIUM CHLOF			-				
DENSITY: 14.8	YIELD:	1.34	MIX H2O:	6.3	SACKS:		65		
5TH SLURRY					<u></u>				
DENSITY:	YIELD:	Ī	MIX H20:		SACKS:				

DISPLACEMENT TYPE | FRESH WATER | DISPLACEMENT VOLUME: | 44 | MUD WEIGHT: | 8.33



# ENERGY SERVICES LLC

**DESIGN - EXECUTE - EVALUATE - REPORT** 

0

CAZA OPERATING
IGLOO 19 24 STATE FED COM 14H
LEA County, NEW MEXICO

PRIMARY PUMP:

2052

SECONDARY PUMP:

2051

**Prepared By: Keith Jackson** 

SERVICE SUPERVISOR
ARTESIA DISTRICT
1-575-748-8610

12/4/2019

	ENER	<i>16</i>	<i>ier</i> l	ICES LI	.E				
COMPANY NAME:	CAZA OPERATING		DATE:	12/4/2019	<del></del>				
LEASE NAME:	IGLOO 19 24 STATE	FED COM	OPERATOR NAME:						
WELL NUMBER:	14H		TICKET NUMBER: 9907						
API NUMBER:			AFE NUM	IBER:					
SECTION: 19		TOWNSHI		<b>20S</b>	RANGE:	35E			
COUNTY: LEA			STATE:	NEW MEXICO					
RIG NAME: NABORS	M51	COMPAN			PHONE#:				
		··	DIRECTIO	NS					
•									
Taka 87 aast to 360	turn right on 360 and	go to 62-180	) tuen laft	on 62-190 and go to	Marathon ros	ud tuen sight on			
	5 miles, turn left go 1.		ation. Nab	ors M51					
UPDATED BY DAMA	SIO 12-3-10	<del></del>	NOTES	<del></del>	<u> , -</u>				
OF DATED BY DAMA	310 12-3-19								
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WEAR PROPER PPE									
TOTAL TROPERTY		JC	OB PROCEI	OURE					
TEST LINES	LI MATED								
PUMP 20 BBLS FRES	H WAIEK								
	RRY @ 15.6								
PUMP 2400 SKS SLU									
PUMP 2400 SKS SLU SHUT DOWN									
SHUT DOWN									
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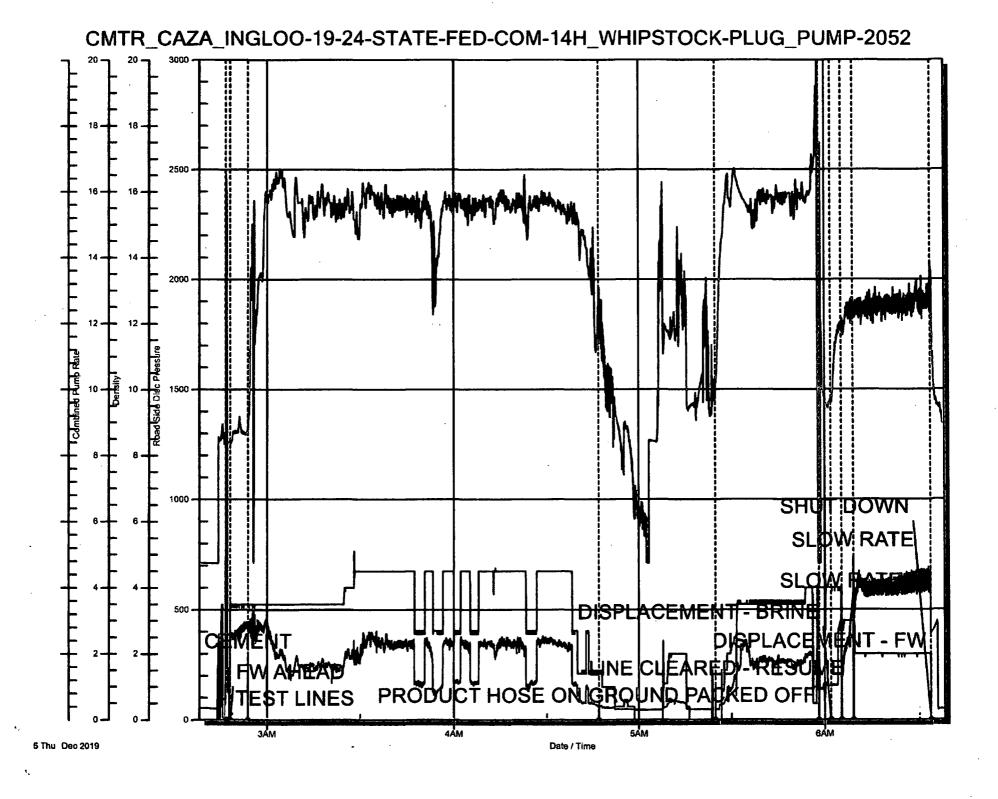
	E	VER	GY S	ERVICES	; LLC	-				
	talian estat			L/CASING DATA	<del></del>		•			
JOB TYPE:	Wi	IIPSTOCK P	LUG	HOLE SIZE:		20	<del></del>			
TVD:	3400			PREVIOUS CASING S	IZE:					
PREVIOUS CASING LB/	FT:			PREVIOUS CASING DEPTH:						
CASING SIZE:	4 1/2 IF DF	RILL PIN								
CASING LB/FT:	16.6			CASING GRADE:		180	<u></u>			
FLOAT COLLAR DEPTH:			<del></del>	SHOE JOINT LENGTH	l:	<del></del>	<del>,</del>			
DV TOOL DEPTH:	<del></del>			SECOND DV TOOL DEPTH:						
TOTAL DEPTH:	3400			TOTAL CASING:		3400				
			TI	UBULAR DATA						
TBG/D.P. SIZE:				TBG/D.P. DEPTH:	· · · · ·	· · · · · · · · · · · · · · · · · · ·				
TBG/D.P. LB/FT:				TOOL DEPTH:						
PACKER OR RETAINER:				PERF/HOLE DEPTH:						
			SURF	ACE EQUIPMENT						
CEMENT HEAD SIZE:				QUICK CONNECT SIZ	E:					
DRILL PIN SIZE/TYPE:	4 1/2 IF			THREAD:	EUE					
TUBING SWEDGE SIZE:				TAKE 2 -2 INCH REG	ULAR TUBING	SWEDGES				
			CHE	MICALS NEEDED						
SUPERVISOR 1:	Keith Jacks	on		EQUIPMENT FIELD REPRESENTAT	IVE:	Diego Ortega				
SUPERVISOR 2:										
				SAFETY REPRESENTA						
	Alfred Pero	hes		SAFETY REPRESENTA UNIT NUMBER:						
PUMP OPERATOR: E/O:	Alex Gonza	alez		<del></del>	ATIVE: 1035/2052 1037/2051	2				
PUMP OPERATOR: E/O: E/O:		alez		UNIT NUMBER:	ATIVE: 1035/2052	2				
PUMP OPERATOR: E/O: E/O: E/O:	Alex Gonza	alez		UNIT NUMBER: UNIT NUMBER:	ATIVE: 1035/2052 1037/2051	2				
PUMP OPERATOR: E/O: E/O: E/O: E/O:	Alex Gonza	alez		UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER:	ATIVE: 1035/2052 1037/2051	2				
PUMP OPERATOR: E/O: E/O: E/O:	Alex Gonza	alez		UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER:	ATIVE: 1035/2052 1037/2051	2				
PUMP OPERATOR: E/O: E/O: E/O: E/O:	Alex Gonza Mario Mui	alez noz		UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER:	ATIVE: 1035/2052 1037/2051	2				
PUMP OPERATOR: E/O: E/O: E/O: E/O:	Alex Gonza	alez noz		UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER:	ATIVE: 1035/2052 1037/2051	2				
PUMP OPERATOR: E/O: E/O: E/O: E/O: E/O: IST SLURRY:	Alex Gonza Mario Mui	alez noz	MIX H2O:	UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: FLUID DATA	ATIVE: 1035/2052 1037/2051	2				
PUMP OPERATOR: E/O: E/O: E/O: E/O: E/O: DENSITY: 15.6	Alex Gonza Mario Mui H+0.2%PF13	alez noz Retarder)		UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: FLUID DATA	ATIVE: 1035/2052 1037/2051					
PUMP OPERATOR: E/O: E/O: E/O: E/O: E/O: DENSITY: 15.6 2ND SLURRY:	Alex Gonza Mario Mui H+0.2%PF13( YIELD:	alez noz Retarder)	MIX H2O:	UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: FLUID DATA  5.2 SACKS:	ATIVE: 1035/2052 1037/2051					
PUMP OPERATOR: E/O: E/O: E/O: E/O: E/O: E/O: DENSITY: 15.6  2ND SLURRY: DENSITY:	Alex Gonza Mario Mui H+0.2%PF13	alez noz Retarder)		UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: FLUID DATA	ATIVE: 1035/2052 1037/2051					
PUMP OPERATOR: E/O: E/O: E/O: E/O: E/O:  1ST SLURRY: DENSITY: 15.6 2ND SLURRY: DENSITY: 3RD SLURRY:	Alex Gonza Mario Mur H+0.2%PF13( YIELD:	alez noz Retarder)	MIX H20:  MIX H20:	UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: FLUID DATA    5.2   SACKS:	ATIVE: 1035/2052 1037/2051					
PUMP OPERATOR: E/O: E/O: E/O: E/O: E/O:  1ST SLURRY: DENSITY: 15.6 2ND SLURRY: DENSITY: 3RD SLURRY:	Alex Gonza Mario Mui H+0.2%PF13( YIELD:	alez noz Retarder)	MIX H2O:	UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: FLUID DATA  5.2 SACKS:	ATIVE: 1035/2052 1037/2051					
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PUMP OPERATOR: E/O: E/O: E/O: E/O: E/O: E/O: E/O:  1ST SLURRY: DENSITY: 15.6  2ND SLURRY: DENSITY: 3RD SLURRY: DENSITY: 4TH SLURRY: DENSITY: 5TH SLURRY	Alex Gonza Mario Mui H+0.2%PF13( YIELD: YIELD:	alez noz Retarder)	MIX H2O:  MIX H2O:  MIX H2O:	UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: UNIT NUMBER: FLUID DATA  5.2 SACKS: SACKS:	ATIVE: 1035/2052 1037/2051					
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# JOB LOG



COMPANY NAME:	CAZA OPERATING	DATE: 12/4/2019
LEASE NAME:	IGLOO 19 24 STATE FED COM	TICKET NUMBER: 9907
WELL NUMBER:	14H	JOB TYPE:
SCHEDULED LOCATIO	N TIME: 10:00	DATE LEFT LOCATION: 12/5/2019

SCHEDOLED			10:00								
TIME ARRIVE				13:00		TIME LEFT LOCATION:	8:00				
	ing jar	3 - 8 2 3 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -	May Carl	9 <sub>V</sub> . ** ±		1.00%	27X 3				
11:15	la f					DDE CONV	OV NATETINIC				
11:30							DY MEETING				
13:00						DEPARTURE FROM YARD  ARRIVE LOCATION					
13:10							ASSESMENT				
13:20							P MEETING				
13:30							MUCH AS POSSIBLE				
20:00							T ON LOCATION				
0:45							GET READY				
1:15							S AND RIG UP				
2:20							ETY MEETING				
2:42			2	1		· · · · · · · · · · · · · · · · · · ·	LINES				
2:47	260		20	3.5			TER AHEAD				
2:53	306		504	4.5		<b>CEMENT - 2400 SK</b>	S / 504 BBLS / 15.6#				
4:45		· · · · · · · ·			SHUT	DOWN, PRODUCT LIN	IE ON GROUNG PACKED OFF				
5:24					•	RESUME - L	INE CLEARED				
5:57	160		5	4		DISPLACEMENT	- FRESH WATER				
5:59	170		25	4		DISPLACEN	IENT - BRINE				
6:05	308		10	3		DISPLACEN	IENT - BRINE				
6:08	560		45	2		DISPLACEM	IENT - BRINE				
6:32						SHUT	DOWN				
6:35	0					CHECK FLOAT - HI	ELD - 1/4 BBL BACK				
					****	NOTE - ALL TIMES ARE	MOUNTAIN TIME ZONE****				
		·									





#### Par Five Energy Services, LLC

ART19-11606-02L

**ENERGY SERVICES LLC** 

11279 Lovington Hwy Artesia, NM

Phone(575)748-8610 Fax: (575) 748-8625

Customer: Caza Operating

MD: 3400

Report Date: December 04 2019

Well Name: Igloo 19 24 State Fed Com 14H

TVD: 3400

ISO Plug

County: Lea

BHST: 107

String: Plug

Rig: Nabor M15

**BHCT: 93** 

Stage:

**Pilot Blend** 

Salesman: Kurt Crowe

Blend Type:

Reported By: Hernandez, Patricia

Surry परिवास काळा

Density: 15.60 ppg

Yield: 1.18 cuft/sk

Mix Fluid: 5.216 gal/sk

Sore Connewstian

Cement Blend:

Class H

Additive Concentration 0.20% %

Design Description BWOB Retarder

Lot Number MM02C-2752BK

		الثقمين	ge Du	100 200 300 PV YP 9 17.5 26 25.5 0.5 36 44.5 52 24 28			
Temp	3	6	100	200	300	PV	ΥP
80 °F	2	2.5	9	17.5	26	25.5	0.5
93 °F	14.5	21	36	44.5	52	24	28

			าสตาการ	Jir (2		
Temp	POD	30 Bc	50 Bc	70 Bc	100 Bc	Batch Time
93 °F	5:52	6:03	6:32	6:56		0
	-	Thickening	Time doe	s not inclu	ude batch	time.

		শিক্ত শিলের		
Temp	Incl.	ml Collected	Start Time	Stop Time
93 °F	0	0 ml/250	7:47	8:47



#### ENERGY SERVICES LLC

# JOB PROCEDURE

# PRE-PLANNED JOB PROCEDURE

EVENT	VOLUME(BBLS)	SACKS	WEIGHT	YIEI	n ·	GAL/SK
	VOLOIVIL (BBLS)	3ACK3		1161		GMLJSK
TEST LINES	- · · · · · · · · · · · · · · · · · · ·					
F/W	20	<u></u>				
CEMENT	504	2400	15.6#	1.1	.8	5.216
F/W	1	· · · · · · · · · · · · · · · · · · ·				
BRINE	¥ 88			<del>                                     </del>		
SHUT DOWN						
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			gs to a constant of the consta			
			Berlin and a series			
DISPLACEMENT	TOTAL PIPE	SHOE JOINT	FLOAT COLLAR	BBL	/FT	H2O REQ
				†		
#N/A	3400	0	3400	#N/	'A	350
TOTAL DISPLACEMENT	#N/A					
CALCULATED DI	FFERENTIAL PSI		TOTAL FLUID P	UMPED	5	60
COLLAPSE		BURST		C/ <b>O</b>	11	606
CASING SIZE		CASING LB/FT		GRADE		

				Caza	a Operating					
				DAILY	OPERATIONS					
WELL:		Igloo 19-24 Si	ate Fed Co	m 14H	Drilling AFE Amount		\$3,286,	752		
FIELD:		Lea; 2nd Bone	e Spring		Completion AFE Amoun	t	\$7,193,			
COUNTY/STAT	ſΕ	Lea/New Mex	ico		TOTAL AFE:		\$10,480	,256		
PTD:		18,000								
LOCATION:		S19 T20S R3 & 2514 FEL	5E NMPM	450 FSL						
ELEVATION (R	≀KB):	22								
API#:		30-025-46412	<u>!</u>							
SERIAL NO:										
SPUD DATE:		Nov 24 2019								
OBJECTIVE:		1st Bone Spri	ng							
JOB NAME:		Drilling								
L		CONTRACTO	)R/RIG#:		Nabors/M51					
Dec 4 2019	MD:	5,535	TVD:		FOOTAGE:	MW:	9.7	LB	PTD:	18,000
	RIG S	SUPERVISOR:		Michael Wil	lliamson / Chris Beebe				PBTD:	
	PRES	ENT OPERATION	is:	Tripping in	hole with whip stock.					

Dec 4 2019	MD: 5,535	TVD:	FOOTAGE:		MW:	9.7	LB	PTD:	18,000
	RIG SUPERVISOR:	Mich	ael Williamson / Chr	is Beebe				PBTD:	
	PRESENT OPERATIONS: Tripping in hole with whip stock.								
	3,413';Tag the top of the WOB, Mill keeps goin do ** No metal shavings at open hole logs.;Lay out up 16 stands of 2 7/8" to hand. Pick up PIP, pick stock and UBHO with VE	*** Mill,bit sub, X/O,Jars,X/O,6 joint 6" drill collars,X/O Energizer,X/O, HWDP,;Trip in the hole to top of fish @ 3,413';Tag the top of the fish @ 3,414' set 20k down P/U and turn rotary on to 60rpms tag fish, pumps @ 30 WOB, Mill keeps goin down beside of the fish, (FULL RETURNS)  *** No metal shavings at shakers***;Pull out of the hole with Mill assy. Lay down fishing BHA.;Rig up wireline open hole logs.;Lay out and strap 2 7/8" drill string. Wait on whip stock, orienting sub and 2 7/8" handling t up 16 stands of 2 7/8" tubing, unload and strap whip stock and subs. Hold PJSM with rig crew, DD, and Bal hand. Pick up PIP, pick up whip stock, Make up Pip to 2 7/8" tubing. Make up whip stock and UBHO. Scribs stock and UBHO with VES and directional driller.;Trip n hole to the shoe Trip speed is 3 minutes per stand.							
	Full Crews days and nigh No Accidents, No Spills.	its							
	DAILY JOB COST:	\$71,	959	TOTAL JOI	B COS	Г:	\$1,2	241,364	
	TOTAL WELL COST:	\$1,5	43,186						
Dec 3 2019	MD: 5,535	TVD:	FOOTAGE:	20	MW:	9.9	LB	PTD:	18,000
	RIG SUPERVISOR:	Mich	Michael Williamson / Chris Beebe					PBTD:	
	PRESENT OPERATIONS:	Layir	Laying down fishing tools.						
	Pull out of the hole loggi  ** caliber log shows cas start laying down 9 5/8 c	ing part @ 3,11		S wire line tr	uck ar	d tools.;R	lig up E	Butches ca	asing crew
	** DVT washed out, low on fishing tools.;Tools at make up fishing BHA. S HWDP.;Trip in hole BHA	rive, Unload, la SPEAR, SPEAR S	y out and strap tool:	s. Hold PJSM	with 1	ishing ha	nd and	rig crew.	Pick up a
	** DVT washed out, low on fishing tools.;Tools at make up fishing BHA.	rive, Unload, la SPEAR, SPEAR S - 3427'. **;Work fishin	y out and strap took TOP, LBS, DRILLING	s. Hold PJSM G JARS, XO,	with 1 6 6" D	ishing hai RILL COL	nd and LARS, 2	rig crew. XO, ENER	;Pick up a GIZER, XC
	** DVT washed out, low on fishing tools.;Tools at make up fishing BHA. S HWDP.;Trip in hole BHA ** Tagged Fish @ 3427*	rive, Unload, la SPEAR, SPEAR S - 3427'. **;Work fishinds.	y out and strap took TOP, LBS, DRILLING	s. Hold PJSM G JARS, XO,	with 16 6" D	ishing hai RILL COLI	nd and LARS, I	rig crew. XO, ENER	;Pick up a GIZER, XC

Dec 2 2019 TVD: FOOTAGE: MW: 9.9 LB PTD: 18,000 MD: 5,515 **RIG SUPERVISOR:** Michael Williamson / Chris Beebe PBTD: PRESENT OPERATIONS: Running Wireline Work tight casing @ 5,125'
\*\*\*\* Max pull 450k \*\*\*;L/D 2 joints, pick up cactus landing joint and land mandrel in well head.;Rig down CRT and casing tools, rig up Par Five cementers..;PJSM with rig crew and par five cementers, Test cement lines to 5,000psi ( test good ) \*\* Cement as followed 20bbls Chemical Wash with dye, 143bbls or 340sks Lead @ 11.9ppg \*\*\* 51bbls or 220sks of tail @ 14.8ppg \*\* \*\*\* Displace with 386bbls brine @10.0ppg \*\*\*( 3bbls over ) \*\*\* Did not bump plug no lift pressure, well on vacuum decision was made to wait on cement\*\*\*; Wait on cement.;Circulate and condition. Pump casing capacity. 381 bbls @ 10 bpms, 250-spp;Hold PJSM with rig crew and Blackhawk tool hand. Load plug in cement head and pump 259 bbls @ 8 bbls/min. reduced rate to 4 bpm @ 200 blls gone, landed plug in dv tool, began to pressure up to 1500 psi per black hawk tool hand, pressure increased to 738 psi, Casing string jumped and we lost all pressure.;Rig down cement head and cement lines.;PJSM with VES wirrelline and rig crew, Rig up wireline equipment. Run in hole with tempature survey.; Waiting on wireline calipers to arrive.;Run in hole with wireline calipers. DAILY JOB COST: \$256,597 TOTAL JOB COST: \$1,050,829 TOTAL WELL COST: \$1,352,651 Dec 1 2019 MD: 5,515 TVD: 5.515 FOOTAGE: MW: 8.4 LB PTD: 18,000 Michael Williamson / Chris Beebe PRTD: RIG SUPERVISOR: PRESENT OPERATIONS: **Running Casing** Wiper trip F/ 5,000' T/ 3,500' \*\*\* Reamed through tight spot F/4,742' T/4,610' \*\*\*; Spot 50BBL gel pill on Bottom. \*\* Drop gyro \*\*\*: Pull out of the hole F/5,535' T/ BHA L/D all drill collars.;L/D BHA;Rig up Butch's casing crew and CRT tool.;Make up shoe track and test same, run in the hole with 9 5/8 casing F/0' - T/4410'.; Wash and ream casing. F/4410' - T/5133'. GPM-650 SPP-235. \*\* Tight spot 4410' - 5133' \*\* Full Crews days and nights No Accidents No Spills DAILY JOB COST: \$54,297 TOTAL JOB COST: \$794,232 TOTAL WELL COST: \$1,096,054 Nov 30 2019 MD: TVD: 5,515 FOOTAGE: 883 MW: 8.4 18 PTD: 18,000 5.515 RIG SUPERVISOR: Michael Williamson / Chris Beebe PBTD: PRESENT OPERATIONS: Making wiper trip Rotate 4,632' - 4,912' (280 @ 70 FPH ) WOB-35-40 GPM-650 SPP-1300 DIFF-300 BHRPM- 70+110. TQ-10K \*\*\* Torque and diff fell off decision made to pull out of the hole\*\*\*\*; Back ream out of the hole F/ 4,912' T/ 4,600' to due tight hole;Pull out of the hole to BHA to change out bit and motor.;Change out bit and motor . \*\* Bit dulled out \*\*\*;Service rig and top drive.;Trip in the hole F/BHA T/4350' \*\* Remove rotating head and installed rotating head \*\*; Wash and ream F/4350' T/4912'. GPM-650, SPP-1100, 70+110 BHRPM.; Rotate 4,912' - 5,482' (570 @ 95 FPH ) WOB-35-40 GPM-650 SPP-1300 DIFF-300 BHRPM- 70+110. TQ-10K \*\* Back reaming every stand \*\* \*\* Pumping Hi vis sweep every other connection \*\*; Rig Service; Rotate 5,482' - 5,535' (106 @ 66 FPH ) WOB-35-40 GPM-650 SPP-1300 DIFF-300 BHRPM- 70+110. TQ-10K; POOH 5535' - 5000'. Full crews days and nights No Accidents, No Spills. \*\* Back reaming every stand \*\* \*\* Pumping Hi Vis sweep every other stand \*\* DAILY JOB COST: \$35,650 TOTAL JOB COST: \$739,935 TOTAL WELL COST: \$1,041,757

Nov 29 2019 TVD: 4,632 FOOTAGE: 2,070 MW: 8.4 LB PTD: 18,000 MD: 4.632 PBTD: Michael Williamson / Chris Beebe RIG SUPERVISOR: Drilling 12 1/4" Vertical Section PRESENT OPERATIONS: Finish changing out hydraulic pump on top drive.; Trip in the hole F/1,823' T/2,562; Rotate 2,562' - 4,067' (1,505 @143.33 FPH ) WOB-35-40 GPM-806 SPP-2,071 DIFF-595 BHRPM- 70+137. TQ-10K \*\*\*\* Displace to slop mud @ 3,450' \*\*\*; Service rig and top drive.; Rotate 4,067' - 4350' ( 283 @ 113.2 FPH ) WOB-35-40 GPM-706 SPP-2,071 DIFF-595 BHRPM- 70+137. TQ-10K \*\* Lost full returns @ 4,213' \*\* \*\* Notified BLM, spoke with Patrick \*\* \*\* Swapped to freshwater only 3 \*\* Reduced GPM to 700 \*\*; Back ream F/4350 T/4298'. Tight hole conditions.; Change swab out on #1 and #2 mud \*\* Not enough flow rate to get pump pressure with 1 mud pump running with no returns \*\*;Rotate 4,350' - 4,362' (12 @ 24 FPH ) WOB-35-40 GPM-700 SPP-2,071 DIFF-595 BHRPM- 70+137. TQ-10K; Back reaming and working tight hole. 700 GPM \*\* Hole tried packing off \*\*;Rotate 4,362' - 4,537' (175 @ 50 FPH ) WOB-35-40 GPM-650 SPP-1300 DIFF-300 BHRPM- 70+110. TQ-10K \*\* Back reaming every stand \*\* \*\* Pumping Hi Vis sweep every other stand \*\*; Rig Service, Grease draw works, Top drive.; Rotate 4,537' - 4,632' (95 @ 95 FPH ) WOB-35-40 GPM-650 SPP-1300 DIFF-300 BHRPM- 70+110. TQ-10K Full crews days and nights No Accidents, No Spills. \*\* Back reaming every stand \*\* \*\* Pumping Hi Vis sweep every other stand \*\* TOTAL JOB COST: **DAILY JOB COST:** \$704,285 \$51,605 TOTAL WELL COST: \$1,006,106 18.000 Nov 28 2019 TVD: FOOTAGE: MW: 10.1 PTD: MD: 2,562 2.562 619 LB RIG SUPERVISOR: Michael Williamson / Chris Beebe PBTD: PRESENT OPERATIONS: Rig Repair Pick up BHA, M/U bit, motor, stabilizer and monel. Make up 8' and 6" DC's and various crossovers.;Trip in hole 0' 1800'; Cut and slip drill line... 24 wraps.; Repair knife valve on #2 mud pump. Valve stem broke off.; Drilled cement F/ 1863' - 1953'. WOB-15 RPM-50 GPM-500; FIT test. Held for 10 minutes. EMW 11.0 ppg ( 101 psi 10ppg mud weight );Rotate 1953' - 2562' (609' @ 135 FPH ) WOB-35 GPM-806 SPP-1870 DIFF-400 BHRPM- 70+137. TQ-10K;Lost hydraulic power to top drive, IBOP won't open, BUW wont close. Circulated with pump in sub @ 300 GPM. \*\* Stopped circulating due to wash out on stand pipe, notified welder., welder arrived and repaired stand pipe. \*\* \*\* Trip to the shoe. \* Troubleshooting hydraulic system. Tech notified @ 20:00 hours. Welder Notified @ 00:00 hours Tech arrived @ 23:30 hours. Welder Arrived @ 02:45 hours. Full crews days and nights No Accidents No Spills DAILY JOB COST: \$75,269 TOTAL JOB COST: \$652,680 TOTAL WELL COST: \$954,501 TVD: FOOTAGE: PTD: 18,000 Nov 27 2019 MD: 1,943 RIG SUPERVISOR: Michael Williamson / Jasen Bradley PBTD: PRESENT OPERATIONS: Wash down landing joint and land same.;Rig down casing crew and CRT;Circulate casing volume with rig pumps @ 8bpm;PJSM, rig up Par five cementers and cement 13 3/8 surface casing as followed \*\* Test lines to 2,000 psi pump 20 bbls water with green dye, 316bbls lead cement @ 12.9ppg followed by 75bbls tail cement @ 14.8ppg then drop top plug and displace with 290bbls of water, bumped plug with 500psi over (1,040) had full returns the entire cement job 100bbls of cement back to surface floats held\*\*\* \*\*\* BLM rep was out to witness cement returns in the cellar\*\*\*;While waiting on cement , rig down cementers, L/D landing joint, install well head and test to 5000psi (test good) nipple up cactus quick connect Install Spacer Spools and Nipple Up BOP E.; Test Stand Pipe from Top Drive back to Pumps, IBOP and Grey Valve. Test Choke line and Choke manifold to 250L/5000H for 10 minutes each. Pipe Rams, VBRs, Blind Rams, HCR and Manual, Kill Lines to 250L/5000H for 10 minutes each Test Hydrill to 250L/3500H for 10 minutes each Test Casing to 1500 psi for 30 minutes \*\*R/D Casing Bails and Elevators and R/U DP Elevators, Install MouseHole, Hook up 2" Bleed off, Layout and Strap BHA during Testing Procedures\*\*; Rig Down Test Equipment; Install Wear Bushing; Handle BHA #2. Pick up 7/8 4.0 Motor, Make up Varel 616 DAILY JOB COST: \$180,950 TOTAL JOB COST: \$577,410 TOTAL WELL COST: \$879,232

Nov 26 2019	<b>,</b>	TVD:	1,943	FOOTAGE:		MW:	9.6	LB	PTD:	18,000	
	RIG SUPERVISOR:			iamson / Jase	•				PBTD:		
	PRESENT OPERATIONS: Running 13 3/8 casing @ 1,924										
	Rotate F/1771' T/1943 (172' @ 28.66 FPH) 35-45K WOB, 850 GPM, 2000SPP, 8-15K Torque, 110 RPM/Motor rpms 1 ** Slow ROP due to motor and drill string stalling ***; Circulate sweep back to surface and calculate strokes 4% was										
	out.  ** Circulate until hole was clean ***;Back ream out of the hole F/ 1,943' T/ 343' due to tight hole ( 840 gpms 80 rp )										
	*** no issues while back reaming ***; Wiper Trip F/343' T/1,943'(No issues, hole slick); Circulate high vis sweep bac to surface until shakers clean up; Pull out of the hole F/ 1,943' T/BHA (No issues, hole slick); Lay down BHA: Bit, Mot Shock Sub, X-Over, and two 17.25" Stabilizers; Nipple Down Conductor Riser, Cut conductor at 56" BGL and weld on Cactus Landing Ring.  **PJSM with Casing Crew and Rig Crew. Gather casing running tools on rig floor. **; Rig Up CRT and Casing Running Tools; Make up Shoe Track, thread locking float shoe and float collar and test floats (test good); Run casing to 1892', pick up landing joint and land casing at 1924'										
	DAILY JOB COST:		\$59,239		TOTAL JO	B COS	Γ:	\$390	5,460		
	TOTAL WELL COST:		\$698,282								
Nov 25 2019	MD: 1,771	TVD:	1,771	FOOTAGE:	1,583	MW:	8.8	LB	PTD:	18,000	
	RIG SUPERVISOR:		Michael Will	iamson / Jase	n Bradley				PBTD:		
	PRESENT OPERATIONS:		Drilling ahea	ad at 1771'	,						
	PRESENT OPERATIONS: Drilling ahead at 1771'  Rotate F/188' T/463' (275' @138 FPH) 15K WOB, 509 GPM, 950 SPP, 7K Torque, 100+ 86 Bit RPM;TOH 4 stands HWDP;Make up 171/4 stabs and shock sub.;TIH to 463';Rotate F/463' T/1058' (595' @ 132 FPH) 15K WOB, 850 GPM, 2250 SPP, 8K Torque, 100+ 145 Bit RPM;Flowline packed off. Remove both sides of flowline to clean pack off;Rotate F/1058' T/1771 (713' @ 75 FPH) 35K WOB, 850 GPM, 1900SPP, 8K Torque, 75+ 145 Bit RPM										
	DAILY JOB COST:		\$61,906		TOTAL JO	B COS	Γ:	\$337	7,221		
	TOTAL WELL COST:		\$639,043								
Nov 24 2019	MD: 188	TVD:	188	FOOTAGE:	68	MW:	8.4	LB	PTD:	18,000	
	RIG SUPERVISOR:		Michael Will	liamson / Jase	n Bradley				PBTD:		
	PRESENT OPERATIONS:		Drilling ahe	ad in 17.5" Su	rface Hole	Section					
	Nipple up flowline manifol water, Set our BHA, Instal 1 stand of HWDP;Conduct and inspect Riser Adaptor. bottom seal and filling up inspect O-Ring and Riser A Riser and test seal using the weld on conductor.;Welde Conductor in Celler. Weld F/117' T/188' Rpm 40/ W DAILY JOB COST: TOTAL WELL COST:	I mouse or riser Repla- cellar. Adaptor he fill u r cut ar ed cond	chole;BHA ha leaking at bo ce gasket and Leak was too with Cactus p line. Riser ad removed R ductor riser to	ndling: Pick u httom seal whe freinstall cone severe to cor wellhead tech Adaptor still le iser Adaptor pi o conductor pi	p and maken pumps to ductor.; Attention of children of the chi	e up 17 urned compt to ng. Set probles cision r ctor, Re Up Flow 0 88 fph	.5" bit, n n. Set l pump at back BH/ ms with ( nade to r emoved ( dine, Ins	notor, 1 back BH nd cond A, lift Co O-Ring. emove ( Cactus L tall Mou	NMDC, 1 A, Removuctor rise inductor R Reinstall Conductor anding Ri	jt 8" DC and e conductor r leaking fror diser and Conductor Riser and ng from	
Nov 23 2019	MD: 120	TVD:	120	FOOTAGE:					PTD:	18,000	
	RIG SUPERVISOR:		Michael Wil	liamson / Jase	n Bradley				PBTD:		
	PRESENT OPERATIONS:		Rigging up	and preparing	to spud						
	Walk rig from Igloo 19-24 weld Cactus Landing Ring.								ctor at 56	" BGL and	
	DAILY JOB COST:		\$239,249		TOTAL 30	B COS	г:	\$239	9,249		
	TOTAL WELL COST:		\$541,071								
Nov 22 2019	MD: 120 RIG SUPERVISOR: PRESENT OPERATIONS:	TVD:	120	FOOTAGE:	120				PTD: PBTD:	18,000	
	DATI V JOB COCT		40		TOT4: **	\n	<b>.</b>	**			
	DAILY JOB COST:		\$0		TOTAL 30	אר רחצ	:	\$0			
	TOTAL WELL COST:		\$301,822								