

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**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 page 2**

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMLC049998B
2. Name of Operator APACHE CORPORATION Contact: EMILY FOLLIS E-Mail: Emily.Follis@apachecorp.com		6. If Indian, Allottee or Tribe Name
3a. Address 303 VETERANS AIRPARK LANE SUITE 1000 MIDLAND, TX 79705	3b. Phone No. (include area code) Ph: 432-818-1801	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 1 T17S R31E NWNW 430FNL 100FWL		8. Well Name and No. HUMMINGBIRD FEDERAL COM 17H
		9. API Well No. 30-015-43482
		10. Field and Pool or Exploratory Area FREN:GLORIETA-YESO
		11. County or Parish, State EDDY COUNTY COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input checked="" type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 must 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 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Apache has request completed the following:

Spud - 05/02/17
RR - 05/20/17

See the attached 3160-5 NOI-Casing repair Sundry. This was sent to Paul Swartz for approval by Mark Henkhaus.

See attached 3160-5 Sundry with attachments

NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 12 2017

Accepted for record - NMOCD

RECEIVED

Submit subsequent sundry with pressure test chart record.

14. I hereby certify that the foregoing is true and correct.		Electronic Submission #379197 verified by the BLM Well Information System For APACHE CORPORATION, sent to the Carlsbad Committed to AFMSS for processing by PAUL SWARTZ on 06/19/2017 ()	
Name (Printed/Typed)	EMILY FOLLIS	Title	REGULATORY ANALYST
Signature	(Electronic Submission)	Date	06/19/2017
THIS SPACE FOR FEDERAL OR STATE OFFICE USE			
Approved By <i>Paul Swartz</i>		Title	
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.		Date	06/21/2017
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 the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.		Office	BUREAU OF LAND MANAGEMENT CARLSBAD FIELD OFFICE

(Instructions on page 2)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

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.**

5. Lease Serial No. NMLC049998B

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator Apache Corporation

3a. Address 303 Veterans Airpark Ln
Midland TX 79705

3b. Phone No. (include area code)
(432) 818-1883

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
NW/NW Sec 1-T17S-R31E, NMPM; 430 FNL 100 FWL; N 32.869635, W 103.830899

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

8. Well Name and No. Hummingbird Federal Com 17H

9. API Well No. 30-015-43482

10. Field and Pool or Exploratory Area
Fren; Glorieta-Yeso Pool

11. Country or Parish, State
Eddy County, New Mexico

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

TYPE OF SUBMISSION	TYPE OF ACTION				
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off	
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity	
<input type="checkbox"/> Final Abandonment Notice	<input checked="" type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other	
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon		
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 recompleat 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 must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

Repair loss of casing integrity caused by DV tool failure. Please see attached detailed procedure:

1. Repair Procedure
2. Wellbore Diagram
3. Daily Completion Summary for prior seven days
4. Excerpts from Temperature Log, Tracer Survey, Slug Test
5. Photos of DV tool showing open, eroded ports in tool body
6. Mohawk Energy's expandable liner spec sheet

Immediate approval/verbal approval requested so repairs can begin immediately; rig and completion crew on stand-by pending approval.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Mark Henkhaus mark.henkhaus@apachecorp.com

Regulatory Manager

Title

Signature



Date

06/19/2017

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

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

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.

(Instructions on page 2)



Hummingbird Federal Com 17H
Completion Procedure

API: 30-015-43482
AFE: 11-16-1654-CP

Tapered Casing String:

Upper Section	7" 29# L80 w/7" X 5.5" X-Over @ 5309 DV tool @ 5309
Lower Section	5 1/2" 20# L80 w/ Packers Plus Tools 5309 to 10429
KB = 16.50 ft.	MTD = 10,429 ft.

Repair Procedure:

1. MIRU PU, power swivel, fork lift, catwalk, and pipe racks. Unit needs to be capable of 200,000 lbs pulling force. Deliver 5,400' of 2-7/8" P-110 PH6 workstring. MIRU 10k pump truck. Make sure working tanks are full of water and treated with biocide. Pressure test surface equipment to 6,000 psi.
2. The DV tool needs to be dressed off to drift diameter to make sure the exact diameter for expansion is correct. PU and RIH with 6" bit and tag the cross over. Mark pipe at depth. POOH. PU and RIH with a 6.059" flat or concave mill. The outside of the mill needs to be smooth. RIH and dress off DV tool, do not put weight on the crossover at 5,311' by casing tally. Note any torque or issues going through DV tool. POOH.
3. Fill the well up if there's a fluid level. PU Mohawk 7" expandable liner. RIH according to Mohawk's procedure. Run liner to as deep as possible and land at the crossover and across the DV tool. Max hook load: 192,000 lbs. Set liner according to Mohawk's procedure. PU and tag top of liner.
4. Pressure test casing to 3,000 psi for 15 minutes. Record on chart. POOH. Prep well for cleanout.
5. RIH clean out well.
6. MIRU frac spread, complete frac per procedure.

Permian Schematic - Current (Landscape)

Well Name: HUMMINGBIRD FEDERAL COM 17H

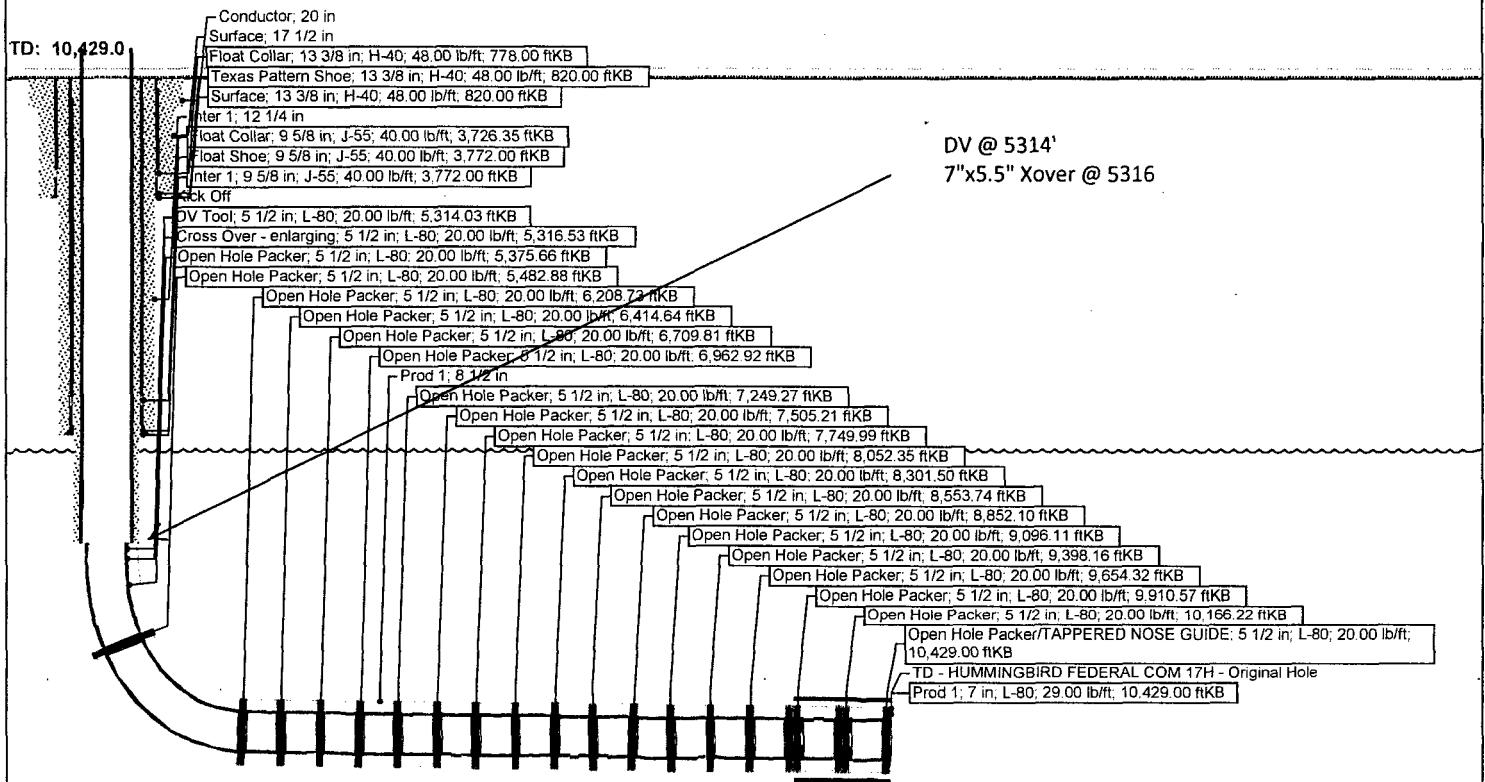
Surface Legal Location 430' FNL & 100' FWL SEC 1 T17S R31E	APU/Surface Loc 3001543482	Well Purpose APPR	Orig KB Elev (ft) 4,054.5	KB-Grd (ft) 16.5	Ground Elevation (ft) 4,038.0
PBTD (All) (ftKB) Original Hole - 5,311	Total Depth (ftKB) 10,429.0	Current Well Status	Current Status Date 5/2/2017	Spud Date	Rig

Most Recent Job

Job Category LCM	Primary Job Type Land-Orig Comp	Secondary Job Type Devel	Start Date 5/23/2017	End Date
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APPR - HUMMINGBIRD FEDERAL COM 17H - Original Hole, 6/16/2017 7:53:43 AM

Directional schematic (actual)



Apache

APACHE PARTNER REPORT HUMMINGBIRD FEDERAL COM 17H

Page 1 of 1
Current Depth: 0

Report Date: 5/24/2017

Apache Completions Report

Job Category LCM	Primary Job Type Land-Orig Comp	Secondary Job Type Devel	Start Date 5/23/2017
AFE Number 11-16-1654-CP	Total Depth (ftKB) 10,429.0	Target Depth (ftKB)	Target Formation Upper Blinbry

Report #: 1 DFS: 21.98 DDFS: 1.00 Rig: <Rig?>

Day Total (Cost) \$7,070	Cum To Date (Cost) \$7,070	Start Depth (ftKB) 0	Start Depth (TVD) (ft...)	End Depth (ftKB) 0	End Depth (TVD) (ft...)	Depth Progress (ft)	Drilling Hours (hr)	Avg ROP (ft/hr)
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5/24/2017

Current Status

24 Hour Summary
RUN CNL-CBL-GR-CCL TEST CSG

Time Log

Start Time	Dur (hr)	Cum Dur (hr)	Time Code	Operation Details
00:00	9.00	9.00	WOD	
09:00	3.00	12.00	WL Logs	MIRU RENEGADE WL & CRANE. PU RIH W/ CNL-CBL-GR-CCL LOGGING TOOLS TAG DV TOOL @ 5311' LOG FROM 5311'-SURF. EST CEMENT TOP @ 260'. RD MO WL.
12:00	1.00	13.00	Test Csg	MIRU DOUBLE R KILL TRUCK TEST CSG TO 5000#. TEST GOOD SI SD
13:00	11.00	24.00	SDFN	

Casing

Csg Des	Run Date	Set Depth (ftKB)	OD (in)	Grade	W/Len (lb/ft)
Surface	5/2/2017	820.00	13 3/8	H-40	48.00
Inter 1	5/5/2017	3,772.00	9 5/8	J-55	40.00
Prod 1	5/15/2017	10,429.00	7	L-80	29.00
Prod 1	5/19/2017	10,429.00	7	L-80	29.00

Cement

Des	End Date	Top (ftKB)	Btm (ftKB)	Full Return?	Obj
Primary Cement	5/2/2017	16.50	820.00	Yes	
Primary Cement	5/6/2017	16.50	3,772.00	Yes	
Primary Cement	5/20/2017	16.50	5,311.00	Yes	

APACHE PARTNER REPORT HUMMINGBIRD FEDERAL COM 17H

Page 1 of 1
Current Depth: 0

Report Date: 5/26/2017

Apache Completions Report

Job Category LCM	Primary Job Type Land-Orig Comp	Secondary Job Type Devel	Start Date 5/23/2017
AFE Number 11-16-1654-CP	Total Depth (ftKB) 10,429.0	Target Depth (ftKB)	Target Formation Upper Blinebry

Report #: 2 DFS: 23.98 DDFS: 2.00 Rig: <Rig?>

Day Total (Cost) \$2,261	Cum To Date (Cost) \$9,331	Start Depth (ftKB) 0	Start Depth (TVD) (ft...)	End Depth (ftKB) 0	End Depth (TVD) (ft...)	Depth Progress (ft)	Drilling Hours (hr)	Avg ROP (ft/hr)
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5/26/2017

Current Status

24 Hour Summary

RUSU & REVERSE UNIT. NU BOP PU RIH 7" BIT, DC & TBG

Time Log

Start Time	Dur (hr)	Cum Dur (hr)	Time Code	Operation Details
00:00	10.00	10.00	WOD	
10:00	2.00	12.00	RU/RD	REVIEW JSA HELD AFTY MEETING. MIRUSU & REVERSE UNIT. NU BOP RACK & TALLEY TBG
12:00	3.00	15.00	RIH	PU RIH 6" BIT, X/O, 4 3.50" DC & 2 7/8 J-55 TBG TAG DV TOOL W/ 160 JNTS TBG @ 5311'
15:00	3.00	18.00	DOPS	NU STRIPPER HEAD & PICK UP SWIVEL DO DV TOOL CIRC CLEAN. SI SD
18:00	6.00	24.00	SDFN	

Casing

Csg Des	Run Date	Set Depth (ftKB)	OD (in)	Grade	Wt/Len (lb/ft)
Surface	5/2/2017	820.00	13 3/8	H-40	48.00
Inter 1	5/5/2017	3,772.00	9 5/8	J-55	40.00
Prod 1	5/15/2017	10,429.00	7	L-80	29.00
Prod 1	5/19/2017	10,429.00	7	L-80	29.00

Cement

Des	End Date	Top (ftKB)	Btm (ftKB)	Full Return?	Obj
Primary Cement	5/2/2017	16.50	820.00	Yes	
Primary Cement	5/6/2017	16.50	3,772.00	Yes	
Primary Cement	5/20/2017	16.50	5,311.00	Yes	

Apache

APACHE PARTNER REPORT HUMMINGBIRD FEDERAL COM 17H

Day 3

Page 1 of 1
Current Depth: 0

Report Date: 5/27/2017

Apache Completions Report								
Job Category LCM		Primary Job Type Land-Orig Comp		Secondary Job Type Devel		Start Date 5/23/2017		
AFE Number 11-16-1654-CP		Total Depth (ftKB) 10,429.0		Target Depth (ftKB)		Target Formation Upper Blinebry		
Report #: 3 DFS: 24.98 DDFS: 3.00 Rig: <Rig?>								
Day Total (Cost) \$1,725	Cum To Date (Cost) \$11,056	Start Depth (ftKB) 0	Start Depth (TVD) (ft...)	End Depth (ftKB) 0	End Depth (TVD) (ft...)	Depth Progress (ft)	Drilling Hours (hr)	Avg ROP (ft/hr)
5/27/2017								
Current Status								
24 Hour Summary DO DEBRIS SUB CIRC CLEAN								
Time Log								
Start Time	Dur (hr)	Cum Dur (hr)	Time Code	Operation Details				
00:00	6.00	6.00	WOD					
06:00	3.00	9.00	POOH	REVIEW JSA HELD SFTY MEETING. POOH W/ TBG & BHA, LD BIT				
09:00	3.00	12.00	RIH	PU RIH W/ 4.60" MILL, 4 3.50" DC, X/O & 133 JNTS 2 7/8 J-55 TBG TAG DEBRIS SUB @ 5421,'				
12:00	5.00	17.00	DOPS	RU SWIVEL, NU STRIPPER HEAD DO DEBRIS SUB CIRC CLEAN. PU RIH W/ 187 JNTS TBG TO 6254' CIRC CLEAN.				
17:00	1.00	18.00	RIHPOOH	POOH TO 5100' LEAVE SWINGING				
18:00	6.00	24.00	SDFN					
Casing								
Csg Des		Run Date		Set Depth (ftKB)		OD (in)		Grade
Surface		5/2/2017		820.00		13 3/8		H-40
Inter 1		5/5/2017		3,772.00		9 5/8		J-55
Prod 1		5/15/2017		10,429.00		7		L-80
Prod 1		5/19/2017		10,429.00		7		L-80
Cement								
Des		End Date		Top (ftKB)		Btm (ftKB)		Full Return?
Primary Cement		5/2/2017		16.50		820.00		Yes
Primary Cement		5/6/2017		16.50		3,772.00		Yes
Primary Cement		5/20/2017		16.50		5,311.00		Yes

APACHE PARTNER REPORT

HUMMINGBIRD FEDERAL COM 17H

Report Date: 5/28/2017

Apache Completions Report								
Job Category LCM		Primary Job Type Land-Orig Comp		Secondary Job Type Devel		Start Date 5/23/2017		
AFE Number 11-16-1654-CP		Total Depth (ftKB) 10,429.0		Target Depth (ftKB)		Target Formation Upper Blinebry		
Report #: 4 DFS: 25.98 DDFS: 4.00 Rig: <Rig?>								
Day Total (Cost) \$11,365	Cum To Date (Cost) \$22,421	Start Depth (ftKB) 0	Start Depth (TVD) (ft...)	End Depth (ftKB) 0	End Depth (TVD) (ft...)	Depth Progress (ft)	Drilling Hours (hr)	Avg ROP (ft/hr)
5/28/2017								
Current Status								
24 Hour Summary POOH LD TBG & BHA RDMO SU & REVERSE UNIT								
Time Log								
Start Time	Dur (hr)	Cum Dur (hr)	Time Code	Operation Details				
00:00	6.00	6.00	WOD					
06:00	4.00	10.00	POOH	REVIEW JSA HELD SFTY MEETING. POOH LD 2 7/8 J-55 TBG, DC & MILL. ND BOP NU WH. SI				
10:00	1.00	11.00	RU/RD	RDMOSU & REVERSE UNIT RELEASE ALL PARTY'S.				
11:00	13.00	24.00	SDFN					
Casing								
Csg Des		Run Date	Set Depth (ftKB)	OD (in)	Grade	W/Len (lb/ft)		
Surface		5/2/2017	820.00	13 3/8	H-40	48.00		
Inter 1		5/5/2017	3,772.00	9 5/8	J-55	40.00		
Prod 1		5/15/2017	10,429.00	7	L-80	29.00		
Prod 1		5/19/2017	10,429.00	7	L-80	29.00		
Cement								
Des		End Date	Top (ftKB)	Btm (ftKB)	Full Return?	Obj		
Primary Cement		5/2/2017	16.50	820.00	Yes			
Primary Cement		5/6/2017	16.50	3,772.00	Yes			
Primary Cement		5/20/2017	16.50	5,311.00	Yes			

Apache

APACHE PARTNER REPORT HUMMINGBIRD FEDERAL COM 17H

Day 5

Page 1 of 1
Current Depth: 0

Report Date: 6/14/2017

Apache Completions Report									
Job Category LCM		Primary Job Type Land-Orig Comp		Secondary Job Type Devel		Start Date 5/23/2017			
AFE Number 11-16-1654-CP		Total Depth (ftKB) 10,429.0		Target Depth (ftKB)		Target Formation Upper Blinebry			
Report #: 5 DFS: 42.98 DDFS: 5.00 Rig: <Rig?>									
Day Total (Cost) \$13,826	Cum To Date (Cost) \$36,247	Start Depth (ftKB) 0	Start Depth (TVD) (ft...)	End Depth (ftKB) 0	End Depth (TVD) (ft...)	Depth Progress (ft)	Drilling Hours (hr)	Avg ROP (ft/hr)	
6/14/2017									
Current Status									
24 Hour Summary RU FRAC PRE FILL SAND									
Time Log									
Start Time	Dur (hr)	Cum Dur (hr)	Time Code	Operation Details					
00:00	12.30	12.30	RU/RD	PUMPCO RIGGING UP, SAND KINGS FILLED, RESTRAINTS INSTALLED.					
12:18	1.15	13.45	Test Csg	CASING TEST TO 3000 PSI FOR 15 MIN 3,000 PSI TO 2,960 PSI FRAC PORT OPEN @6120 PSI.					
13:27	1.40	14.85	STIM	FRAC STAGE # 1: PUMPCO TO FRAC BLINEBRY (UPPER) FORMATION. RAN 179 BBLS 15% HCL, 5018 BBLS SLICKWATER, TOTAL LTR: 5197 BBLS. 228900LB 100 MESH BROWN SAND, 44960LB 20/40 BROWN SAND, TOTAL PROP = 273860LB. AVG PRES = 3407 PSI, MAX PRES = 4460, AVG RATE = 82.2 BPM, MAX RATE = 85.5 BPM, ISIP = 2608 PSI, FG = 0.8732 PSI/FT.					
14:51	0.55	15.40	DROPBLL	DROP 2.625 BALL NO BALL ACTION SEEN					
15:24	0.85	16.25	STIM	BEGIN STAGE 2 FRAC NO BALL ACTION SEEN ATTEMPT TO SEAT BALL WITH OVER VOLUME SHUT DOWN TO DROP SECOND BALL					
16:15	0.50	16.75	DROPBLL	DROP 2.625 BALL SECOND ATTEMPT					
16:45	2.00	18.75	STIM	RESUME STAGE 2 NO BALL ACTION SEEN SECOND ATTEMPT 50 BBLS OVER VOLUME SHUT DOWN.					
18:45	3.40	22.15	WOE	SHUT DOWN TO REPAIR LEAK ON THE WELLHEAD. LEAK FIXED RTO					
22:09	1.35	23.50	WOF	REPLACED A 4" HIGH PRESSURE VALVE.					
23:30	0.35	23.85	WOE	RESUME STAGE 2					
23:51	0.15	24.00	WOE	HAD TO SHUT DOWN, WATER TRANSFER HAD ISSUES GETTING TO RATE.					
Casing									
Csg Des		Run Date	Set Depth (ftKB)	OD (in)	Grade	Wt/Len (lb/ft)			
Surface		5/2/2017	820.00	13 3/8	H-40	48.00			
Inter 1		5/5/2017	3,772.00	9 5/8	J-55	40.00			
Prod 1		5/15/2017	10,429.00	7	L-80	29.00			
Prod 1		5/19/2017	10,429.00	7	L-80	29.00			
Cement									
Des		End Date	Top (ftKB)	Btm (ftKB)	Full Return?	Obj			
Primary Cement		5/2/2017	16.50	820.00	Yes				
Primary Cement		5/6/2017	16.50	3,772.00	Yes				
Primary Cement		5/20/2017	16.50	5,311.00	Yes				

APACHE PARTNER REPORT
HUMMINGBIRD FEDERAL COM 17H

Day 6

Page 1 of 1
 Current Depth: 0

Report Date: 6/15/2017

Apache Completions Report

Job Category LCM	Primary Job Type Land-Orig Comp	Secondary Job Type Devel	Start Date 5/23/2017
AFE Number 11-16-1654-CP	Total Depth (ftKB) 10,429.0	Target Depth (ftKB)	Target Formation Upper Blinebry

Report #: 6 DFS: 43.98 DDFS: 6.00 Rig: <Rig?>

Day Total (Cost) \$7,525	Cum To Date (Cost) \$43,772	Start Depth (ftKB) 0	Start Depth (TVD) (ft...)	End Depth (ftKB) 0	End Depth (TVD) (ft...)	Depth Progress (ft)	Drilling Hours (hr)	Avg ROP (ft/hr)
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6/15/2017

Current Status

24 Hour Summary

FRAC STAGES 2 - RDMO FRAC

Time Log

Start Time	Dur (hr)	Cum Dur (hr)	Time Code	Operation Details
00:00	0.10	0.10	WOE	HAD TO SHUT DOWN, WATER TRANSFER HAD ISSUES GETTING TO RATE.
00:06	1.15	1.25	STIM	FRAC STAGE # 2: PUMPCO TO FRAC BLINEBRY (UPPER) FORMATION. RAN 179 BBLS 15% HCL, 6981 BBLS SLICKWATER, TOTAL LTR: 7160 BBLS. 229600LB 100 MESH BROWN SAND, 45260LB 20/40 BROWN SAND, TOTAL PROP = 274860LB. AVG PRES = 3141 PSI, MAX PRES = 3830, AVG RATE = 80 BPM, MAX RATE = 82.5 BPM, ISIP = 2554 PSI, FG = 0.8643 PSI/FT.
01:15	1.50	2.75	DROPBLL	DROP 2.688 BALL. NO BALL ACTION. OVER DISPLACED 600 BBLS.
02:45	6.00	8.75	DROPBLL	SHUT DOWN. WOO
08:45	15.25	24.00	RU/RD	RDMO FRAC AND ALL PARTIES

Casing

Csg Des	Run Date	Set Depth (ftKB)	OD (in)	Grade	Wt/Len (lb/ft)
Surface	5/2/2017	820.00	13 3/8	H-40	48.00
Inter 1	5/5/2017	3,772.00	9 5/8	J-55	40.00
Prod 1	5/15/2017	10,429.00	7	L-80	29.00
Prod 1	5/19/2017	10,429.00	7	L-80	29.00

Cement

Des	End Date	Top (ftKB)	Btm (ftKB)	Full Return?	Obj
Primary Cement	5/2/2017	16.50	820.00	Yes	
Primary Cement	5/6/2017	16.50	3,772.00	Yes	
Primary Cement	5/20/2017	16.50	5,311.00	Yes	

Printed Date: 6/16/2017

Printed Time: 9:27 AM

Apache

APACHE PARTNER REPORT

HUMMINGBIRD FEDERAL COM 17H

Report Date: 6/16/2017

Apache Completions Report								
Job Category LCM		Primary Job Type Land-Orig Comp		Secondary Job Type Devel		Start Date 5/23/2017		
AFE Number 11-16-1654-CP		Total Depth (ftKB) 10,429.0		Target Depth (ftKB)		Target Formation Upper Blinebry		
Report #: 7 DFS: 44.98 DDFS: 7.00 Rig: <Rig?>								
Day Total (Cost) \$21,593	Cum To Date (Cost) \$65,365	Start Depth (ftKB) 0	Start Depth (TVD) (ft...)	End Depth (ftKB) 0	End Depth (TVD) (ft...)	Depth Progress (ft)	Drilling Hours (hr)	Avg ROP (ft/hr)
6/16/2017								
Current Status								
24 Hour Summary RUN INJECTION LOGS & CAMERA								
Time Log								
Start Time	Dur (hr)	Cum Dur (hr)	Time Code	Operation Details				
00:00	7.00	7.00	WOD					
07:00	11.00	18.00	WL Logs	REVIEW JSA HELD SFTY MTTG. MIRU RENEGADE WL & CRAIN PUMP. PUMP 137 BBL 9 BPM 2310#. PU RIH W/ GR-CCL, TEMP & TRACER TOOL LOG TEMP DOWN TO 6078' PULL UP THE HOLE TO 5050' AND START INJECTION TEST. POOH LD BHA PU RIH W/ CAMERA VERIFY DV TOOL OPEN & FLUID GOING OUT PORTS. POOH W/ TOOLS. SI RDMO ALL PARTIES				
18:00	6.00	24.00	SDFN					
Casing								
Csg Des		Run Date	Set Depth (ftKB)	OD (in)	Grade	Wt/Len (lb/ft)		
Surface		5/2/2017	820.00	13 3/8	H-40	48.00		
Inter 1		5/5/2017	3,772.00	9 5/8	J-55	40.00		
Prod 1		5/15/2017	10,429.00	7	L-80	29.00		
Prod 1		5/19/2017	10,429.00	7	L-80	29.00		
Cement								
Des		End Date	Top (ftKB)	Btm (ftKB)	Full Return?	Obj		
Primary Cement		5/2/2017	16.50	820.00	Yes			
Primary Cement		5/6/2017	16.50	3,772.00	Yes			
Primary Cement		5/20/2017	16.50	5,311.00	Yes			

XENETRADE SERVICES		PUMP IN TRACER	
Company APACHE CORP. Well HUMMINGBIRD FEDERAL COM. 17H Field CEDAR LAKE County LEA State NEW MEXICO Country USA		Company APACHE CORP. Well HUMMINGBIRD FEDERAL COM. 17H Field CEDAR LAKE County LEA State NEW MEXICO Country USA	
Location: 430' FNL & 100' FWL API #: 30-015-43482 Other Services		SEC 1 TWP 17S RGE 31E Permanent Datum GL Log Measured From KB 16.5' AGL Elevation 4038' Drilling Measured From KB Elevation K.B. 4054.5' D.F. 4053.5' G.L. 4038'	
Date 15 JUNE 2017			
Run Number ONE			
Depth Driller 10425'			
Depth Logger 6078'			
Bottom Logged Interval 6078'			
Top Log Interval 4850'			
Open Hole Size NA			
Type Fluid H2O			
Density / Viscosity NA			
Max. Recorded Temp. 97 DEG			
Estimated Cement Top NA			
Time Well Ready 11:00 AM			
Time Logger on Bottom ROA			
Equipment Number 11			
Location ANDREWS			
Recorded By K BACCUS			
Witnessed By MR SKINNER			
Run Number		Borehole Record	
Bit	From	To	Size
			Weight
			From
			To
Casing Record		Tubing Record	
Size	Weight	Top	Bottom
13.3/8"	48#	0'	820'
9.5/8"	36#	0'	377'
7"	26#	0'	5306'
5.5/8"	20#	5306'	10425'

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

PERFORATIONS

INJECTION WELL:

SHUT-IN DATE 6-15-17 HOUR TOTAL S.I. TIME S.I. PRESS
 METERED INJ RATE 1150 B/O PRESSURE 2200 PSI TEMP FLUID TYPE WATER
 TOTAL VOLUME TO DATE FLUID LEVEL TUBING

PRODUCER:

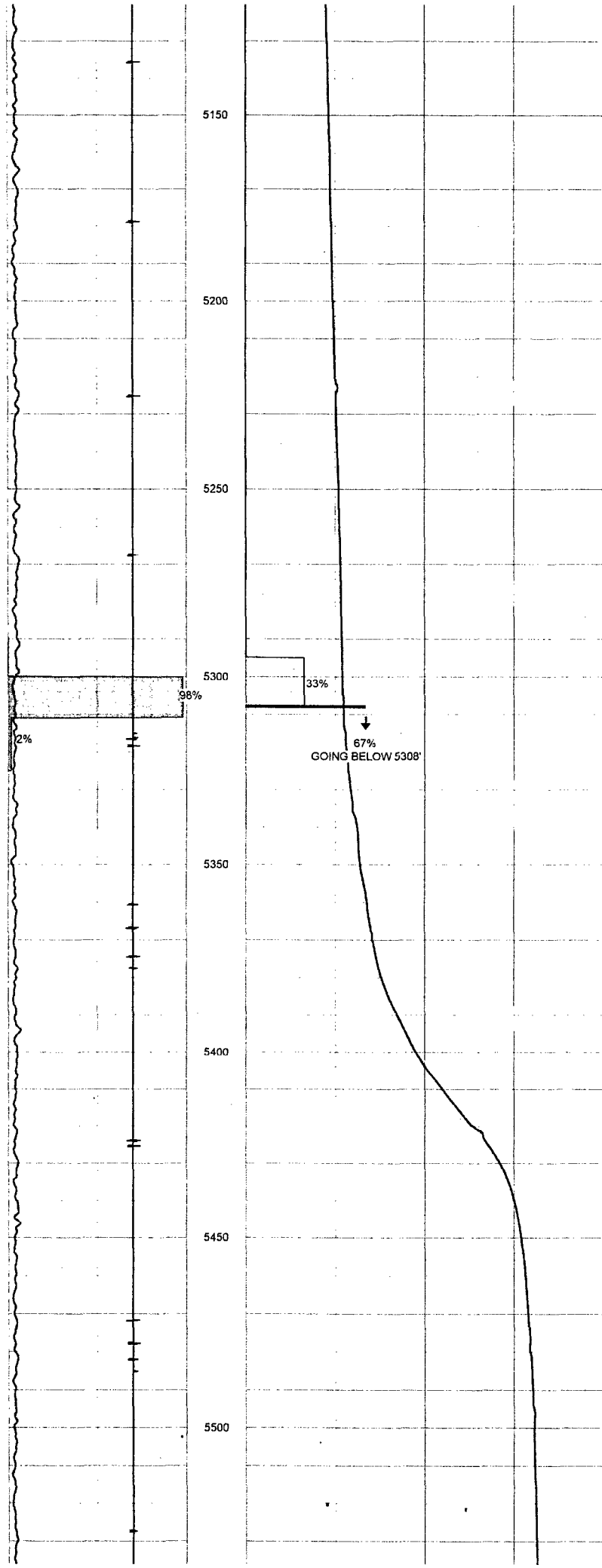
FLOWING PUMPING CHOKE SETTING HOURS PROD.
 FLUID LEVEL CSG. TBG. RATE B/W B/O
 FLUID TYPE

FRAC OR ACID WELLS:

TIME FINISHED FRAC OR ACID ACID FLUID - GALS SAND #
 RATE - BPM PRESSURE

CONCLUSIONS

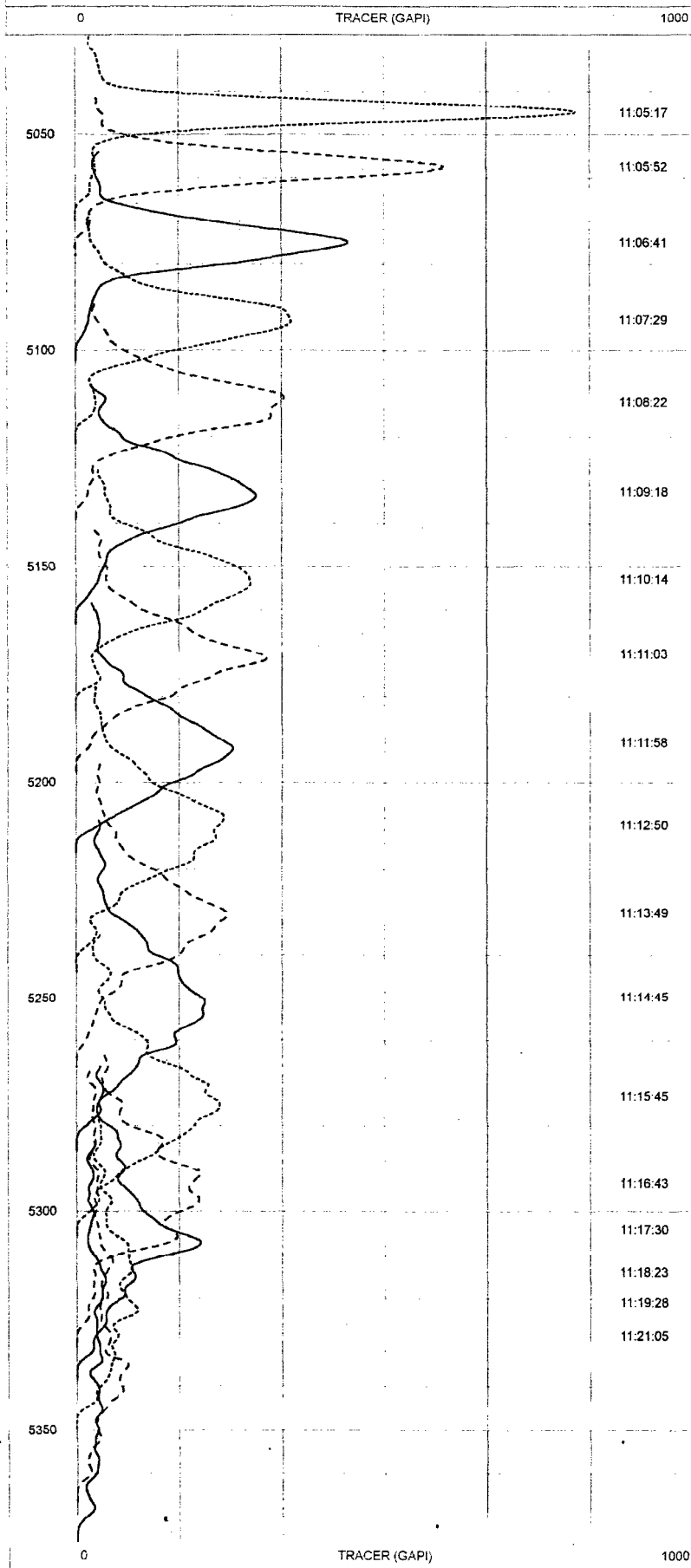
THIS SURVEY WAS RAN TO DETERMINE THE ZONES OF INJECTION. FLUID GOING AWAY AT DV TOOL
 THERE IS INDICATION OF CHANNEL DOWN TO BETWEEN 5313'-5325'
 WITH A NO FLOW AT 5325'

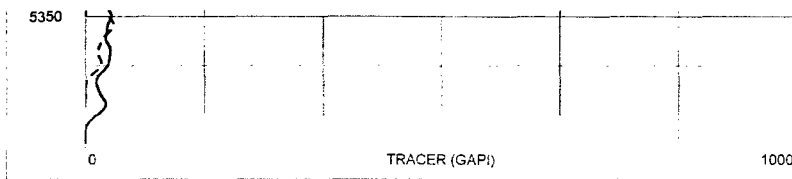




TRACER

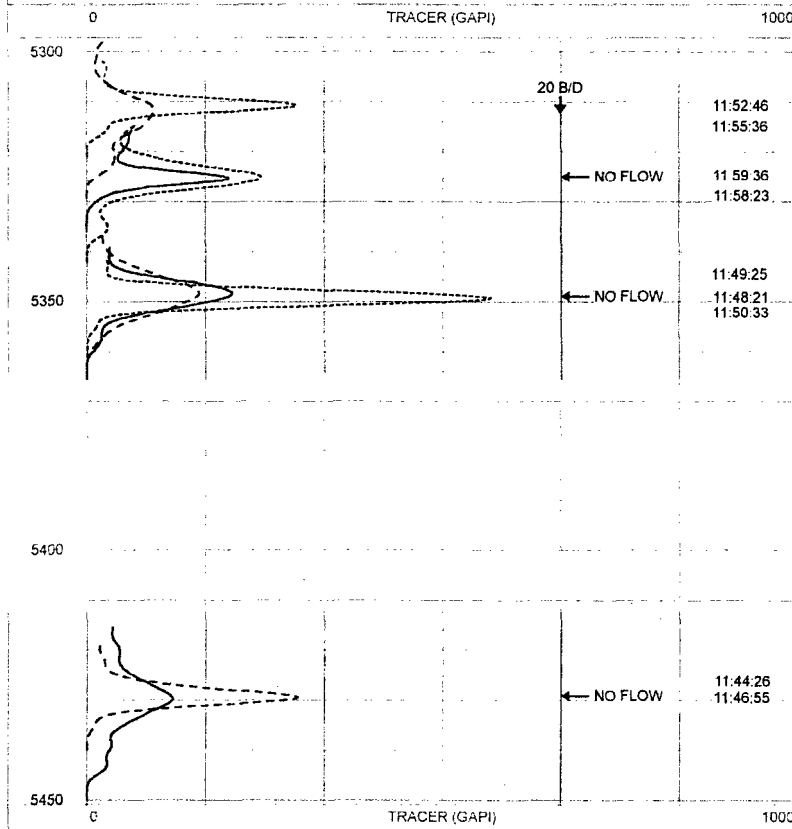
Database File: apache_hummingbird_federal_com_17h_2017-6-15_h2o.db
Dataset Pathname: TRACER_profile1_
Presentation Format: tcrprof
Dataset Creation: Thu Jun 15 11:21:35 2017
Charted by: Depth in Feet scaled 1:240





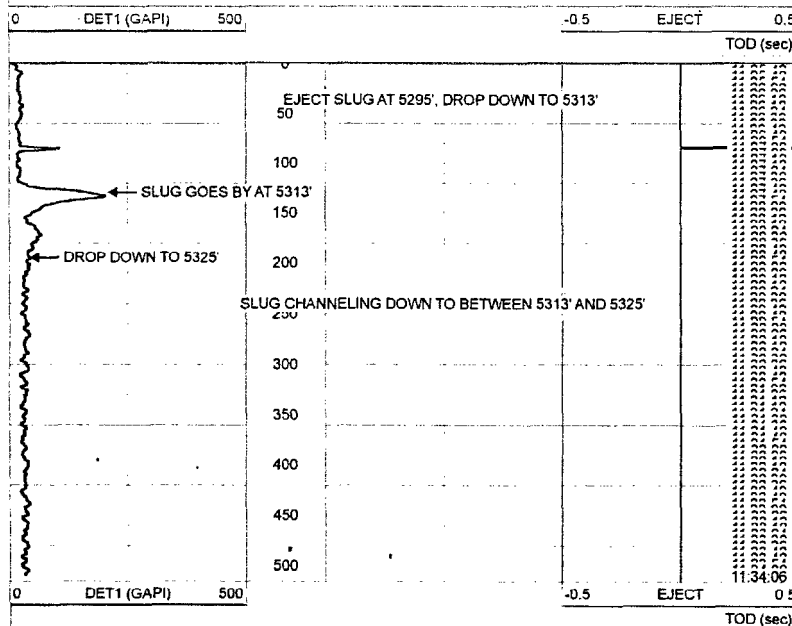
SLUGS

Database File: apache_hummingbird_federal_com_17h_2017-6-15_h2o.db
 Dataset Pathname: SLUGS7_profile6_
 Presentation Format: ircprof
 Dataset Creation: Thu Jun 15 11:59:49 2017
 Charted by: Depth in Feet scaled 1:240



CHANNEL CHECK

Database File: apache_hummingbird_federal_com_17h_2017-6-15_h2o.db
 Dataset Pathname: VELOCITY.pass1
 Presentation Format: tracer
 Dataset Creation: Thu Jun 15 11:25:36 2017 by Log SCH 120430
 Charted by: Time scaled 36°/hour

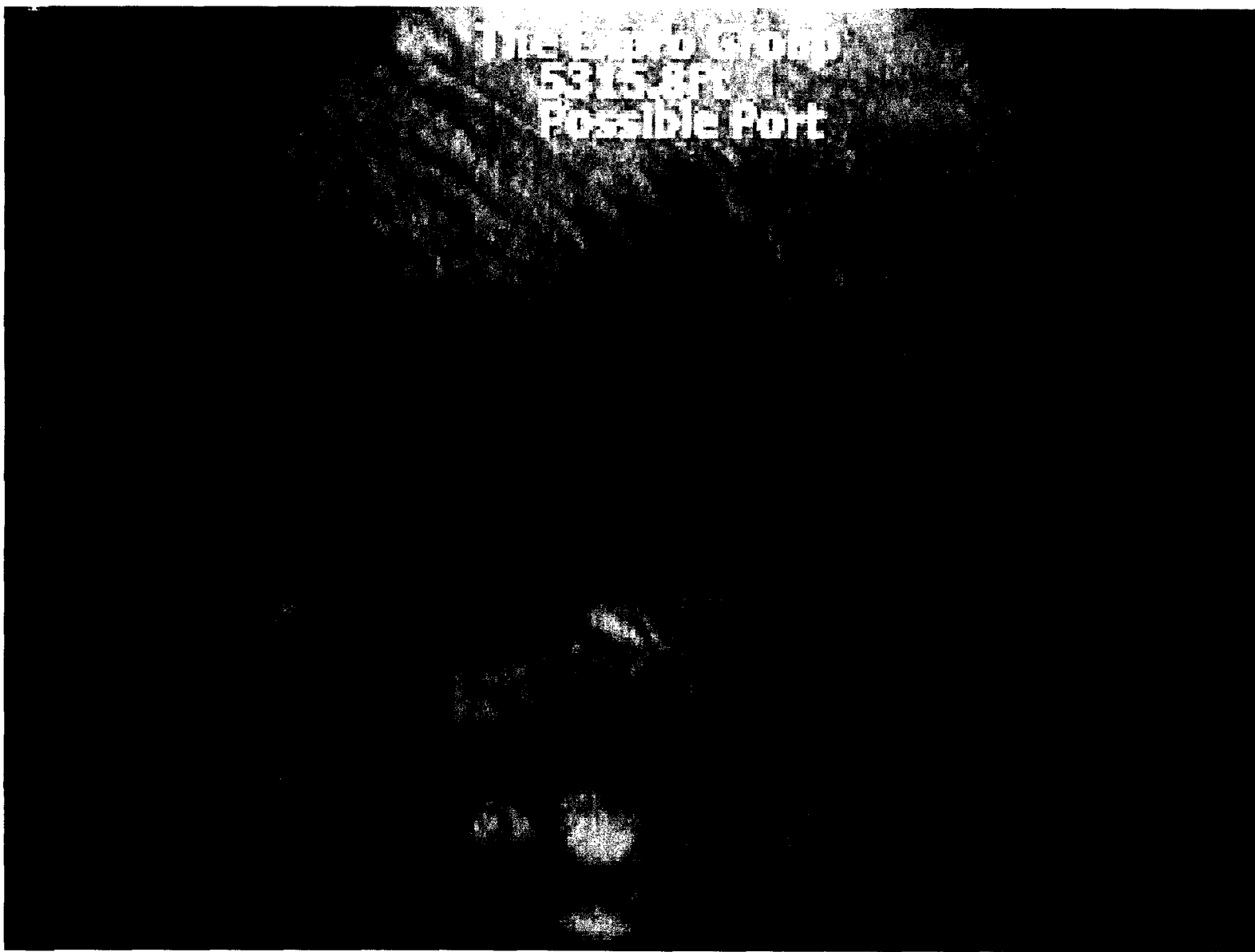


The Expro Group
5315.9Ft
Possible Port

1000 m

1000 m

TIME 010000
5315.8ft
Possible Port



MOHAWK Expandable Casing Liner

MetalPatch Expandable Liner System Specifications

4.0 Proposed Expandable Liner

4.1 Liner Depths

Top of problem	5,308 ft
Bottom of problem	5,311 ft
Planned top of liner (TOL)	5,291 ft
Bottom of liner (BOL)	5,311 ft
Post expanded liner length	20 ft

4.2 Liner Specs

5.5 inch, 0.304 wall x 7 inch, 29 lb/ft MetalPatch Specifications					
Expandable Pipe Body					
Pre-Expansion			Post Expansion		
OD	5.500	inches	OD	6.003	inches
ID	4.892	inches	ID	5.417	inches
Wall Thickness	0.304	inches	Wall Thickness	0.293	inches
Weight	17.000	lb/ft	Drift	5.357	inches
Drift	4.767	inches	Internal Yield	6,927	psi
Seal Joint OD	5.800	inches	Collapse	2,904	psi
Seal Thickness	0.150	inches	Expansion Ratio	10.728	%

Expandable Connection					
Pre-Expansion			Post Expansion		
Connection OD	5.560	inches	Connection OD	6.063	inches
Connection ID	4.880	inches	Connection ID	5.417	inches
Drift	4.767	inches	Drift	5.357	inches
Tensile Rating	141,357	lbs	Internal Yield	6,927	psi
Compressive Rating	141,357	lbs	Collapse	2,904	psi
Max DLS	21.38	°/100ft	Tensile Rating	149,784	lbs
Optimum Torque	2,453	ft-lbs	Compressive Rating	134,805	lbs
Max Torque	2,698	ft-lbs	Yield Torque	3,066	ft-lbs