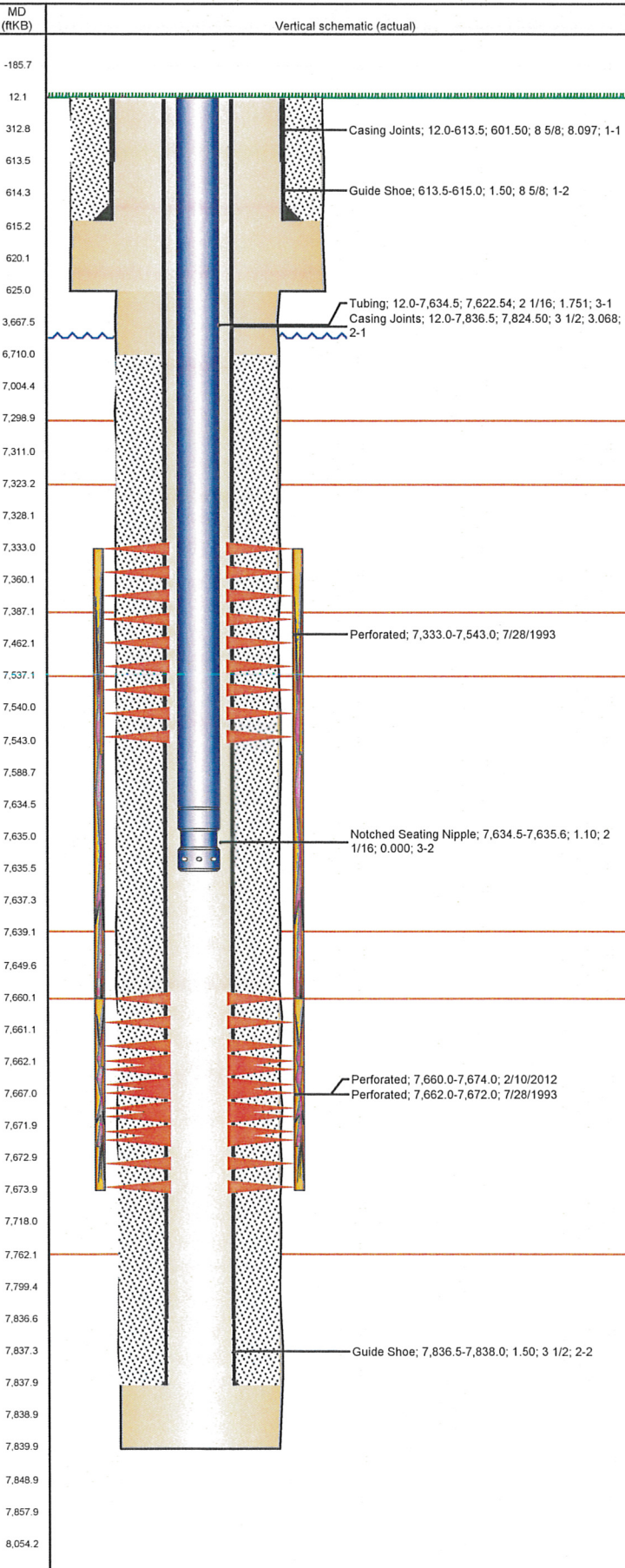


# Frac Wellbore Schematic Report

Well Name: CULVER MC16-05

VERTICAL - ORIGINAL HOLE, 8/7/2012 2:15:51 PM



## Well Header

API 05-013-06335	Business Unit WATTENBERG	District 15	Well Config VERTICAL
Original KB Elevation (ft) 5,061.00	KB - GL / MSL (ftKB) 12.00	Spud Date 7/7/1993	P & A Date

## Comment

## Directions To Well

HWY 52 & HWY 287 SOUTH 1 MILE TO LOOK OUT RD. WEST 1.5 95TH AVE SOUTH 1.5 MILE. EAST THROUGH GREEN ON BLACK WOODEN FENCE 1/10. N.E. 200' S.E 2/10 AROUND LAKE NORTH 300' N/W 1/10 INTO .

## Current PBTD (ftKB)

ORIGINAL HOLE - 7,858.0

## Surface Location (Congressional)

Quarter 1	Quarter 2	Quarter 3	Quarter 4	Section	Township	Twnshp N...	Range	Rng E/W Dir
		SW	NW	16	1	N	69	W

## Bottom Hole Location

North-South Distance (ft)	From N or S Line	East-West Distance (ft)	From E or W Line
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## Plug Back Total Depths

Date	Depth (ftKB)	Method	Com
7/27/1993	7,810.0	CASED HOLE LOG	DEPTH LOGGER ON CBL
2/10/2012	7,858.1	TBG TAG	C/O W/255JTS 4' IN B/S

## Wellbore Sections

Section Des	Size (in)	Act Top (ftKB)	Act Btm (ftKB)
SURFACE	12 1/4	12.0	625.0
PRODUCTION	7 7/8	625.0	7,840.0

## Zone Statuses

Zone Name	Status Date	Status	Job
CODELL	8/9/1993	PR	DRILLING/COMPLETION - ORIGINAL, 7/7/1993 00:00
CODELL	5/7/2012	PR	RE-FRAC, 2/8/2012 06:00
NIOBRARA	8/9/1993	PR	DRILLING/COMPLETION - ORIGINAL, 7/7/1993 00:00

## Casing Strings

Csg Des	Run Date	OD (in)	Wt/Len (lb/ft)	Grade	Top (ftKB)	Set Depth (ftKB)
Surface	7/8/1993	8 5/8	24.00	?	12.0	615.0
Production	7/17/1993	3 1/2	7.70	?	12.0	7,838.0

## Cement

Des	Top (ftKB)	Btm (ftKB)
SURFACE CASING CEMENT	12.0	615.0
PRODUCTION CASING CEMENT	6,710.0	7,838.0

## Tubing Components

Item Des	OD (in)	Wt (lb/ft)	Grade	Jts	Len (ft)
Tubing	2 1/16	3.25	J-55	235	7,622.54
Notched Seating Nipple	2 1/16	0.00	x	1	1.10

## Perforation Data

Zone	Bnch/St g	Entered Shot Total	Top (ftKB)	Btm (ftKB)	Date
NIOBRARA, ORIGINAL HOLE		7	7,333.0	7,543.0	7/28/1993
CODELL, ORIGINAL HOLE		56	7,660.0	7,674.0	2/10/2012
CODELL, ORIGINAL HOLE		6	7,662.0	7,672.0	7/28/1993

## Stimulations & Treatments

Bnch/Stg	Date	Zone	Primary Job Type
	7/29/1993	NIOBRARA-CODELL, ORIGINAL HOLE	DRILLING/COMPLETION - ORIGINAL

## Comment

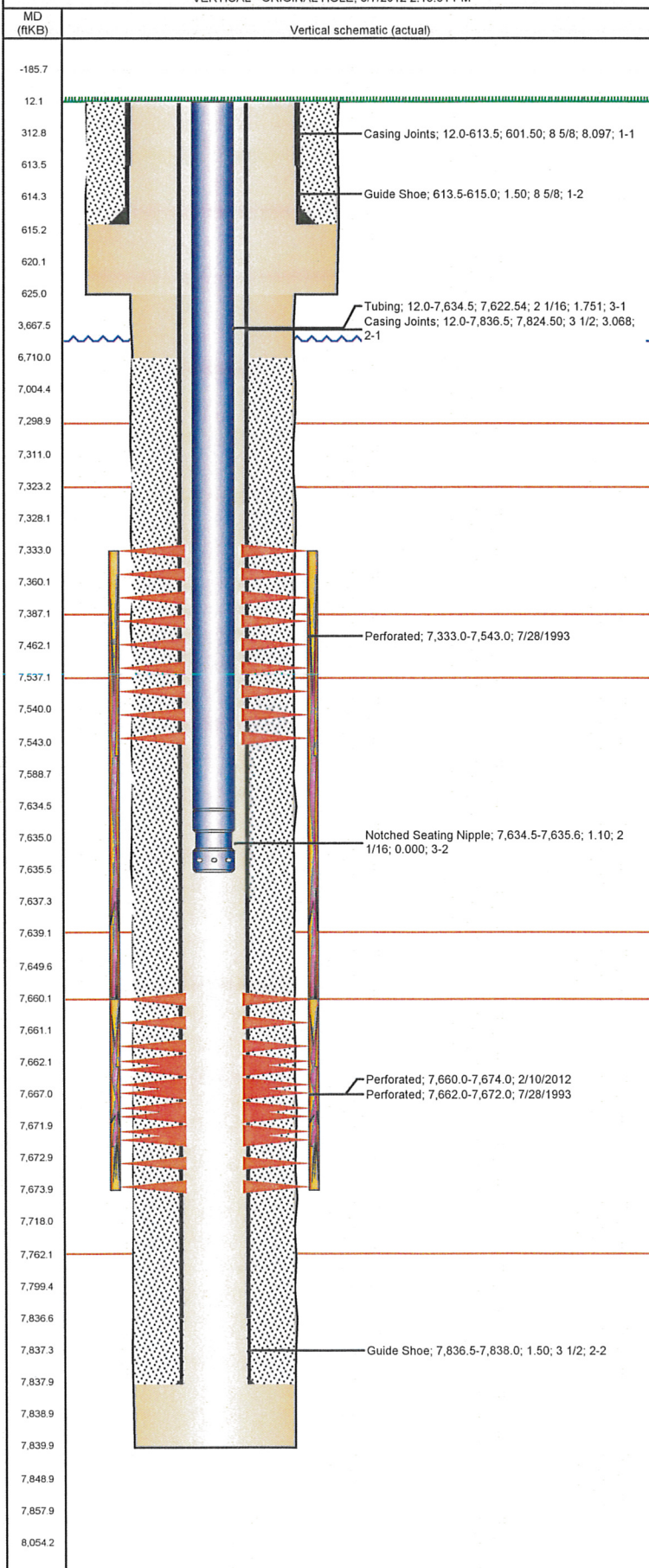
## LIMITED ENTRY

Total Add Amount	Total Clean Volume...	Vol Slurry Tot (gal)	Vol Gas Tot (MCF)
Proppant 300000 lb		101724.00	
Avg Treat Pressure (psi)	Max Treat Pressure (psi)	Avg Treat Rate (bbl/min)	Max Treat Rate (bbl/min)
5,200.0	6,010.0	31.50	36.50



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## Stimulations & Treatments

Bnch/Stg	Date	Zone	Primary Job Type
	3/12/2012	CODELL, ORIGINAL HOLE	RE-FRAC
<p>Comment</p> <p>(CODELL)-PRE JOB, BREAK 4445 @ 4.8, ISIP 2847, 5 MIN 2358, PERFS OPEN 17.9, PERF. FRIC 551, NWB FRIC 225, POST JOB ISIP 3113, 5 MIN 2939, MAX PRESS 7097, MAX RATE 14.4, AVG VISC 23.3, PH 10.24, AVG TEMP 72.44</p> <p>24 BARRELS TO LOAD BACKSIDE</p> <p>20.7 BARRELS TO LOAD FRAC STRING</p> <p>2 IN VALVE ON BRAIDEN HEAD WAS LEAKING WOULDNT SHUT OR OPEN. SHUT ALL FRAC TRUCKS DOWN ON LOCATION AND BLEED DOWN WELL THREW NEEDLE VALVE. PRESSURE WOULD NOT REGISTER ON 3000 PSI GAUGE. CHANGED OUT VALVE WITH ONE ON LOCATION.</p> <p>FAN 50 DID NOT PASS IN THE LAB. CALLED JASON AND HE HAD BAKER LAB RUN ANOTHER FAN 50 RUN. DOWN FOR 3 HOURS. SECOND FAN 50 RUN PASSED AND RESUMED JOB.</p> <p>POP OFF VALVE FAILED ON LOCATION, JAMES CALLED OFFICE AND OK D HIM TO TAKE IT OFF AND PUT A CAP ON IT WE RESET THE PUMP KICK OUTS FOR 7400 PSI, AND CONTINUED JOB. MAX PSI 9000 PSI.</p> <p>IN THE START OF 1LB SAND CASING PRESSURE CAME AT US FROM 150 PSI AND CONTINUED TO RISE. I WAITED UNTIL 460 PSI. STARTED TO PUMP ON BACKSIDE AND TOOK IT TO 1000 PSI. LEVELED OUT UNTIL THE START OF 2 LB AND STARTED TO RISE. I CALLED BRIAN AND HE HAD ME START PUMPING ON IT AND TRY TO KEEP IT UNDER 3500 PSI. PRESSURE LEVELED OUT AT 2560 PSI. COMPLETED JOB ACCORDING TO DESIGN.</p>			
Total Add Amount		Total Clean Volume...	Vol Slurry Tot (gal)
Proppant Ottawa		125706.00	136546.20
240537.598 lb			
Avg Treat Pressure (psi)	Max Treat Pressure (psi)	Avg Treat Rate (bbl/min)	Max Treat Rate (bbl/min)
5,578.0	7,097.0	14.00	14.40
<b>Other In Hole</b>			
Run Date	Des	OD (in)	Top (ftKB)
<b>Logs</b>			
Date	Type	Top (ftKB)	Btm (ftKB)
7/18/1993	COMPENSATED DENSITY	3,960.0	7,797.0
7/18/1993	INDUCTION	570.0	7,826.0
7/27/1993	CBL/CCL/GR	6,600.0	7,810.0