



**WELL COMPLETION FORM**  
**WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Conv. to GSW
- Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date      Date Reached TD      Completion Date or Recompletion Date

API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

**KCC Office Use ONLY**

- Letter of Confidentiality Received  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_



1102463

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR. \_\_\_\_\_ Producing Method:  
 Flowing    Pumping    Gas Lift    Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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**WELLBORE SCHEMATIC**

**Current**

8-5/8" 20# 135 sxs  
12-1/4" hole 221'

LNR TOC ???  
(Calc to surf)

Sqz Perfs @ 2220'  
sqzd w/ 350 sxs

TOC @ ???

BOL @ 3786'

Arbuckle Perfs  
3810-16' (4 spf) (10/02)

CIBP @ 3820' (10/02)

Hole 7-7/8" 5-1/2" 14# 150 sxs

3830' Arbuckle OH  
3830-35'

3,835' TD

Lease:	McClellan	Well No.	#11
API No.	15-065-22554	Status	PR
Location:	SWNESE, Sec. 2, T10S-R21W		
County:	Graham	State:	KS
TD	3835'	GL	2280'
PBTD	3820'	KB	2285'
Current Perfs/OH:	3810-16'	Current Zone:	ARB
Field:	Cooper		
Spud Date:	1/13/1990		
Comp Date:	2/5/1990		

**Surface Equipment**

Unit Make:	Lufkin	Unit Size:	228
Unit S/N:		Unit Rotation:	
SPM:	13.8	Stroke Length:	65"
Prime Mover:		Unit Sheave:	
Motor S/N:		Motor Sheave:	
		Motor RPM:	

**Casing Breakdown**

	Size	Grade / Wt	Depth	Hole Size	Cement
Surface	8-5/8"	20#	221'	12-1/4"	135 sxs
Production	5-1/2"	14#	3830'	7-7/8"	150 sxs
Production					
Liner	4-1/2"	10.5#	3786'		275 sxs

**Tubing Breakdown**

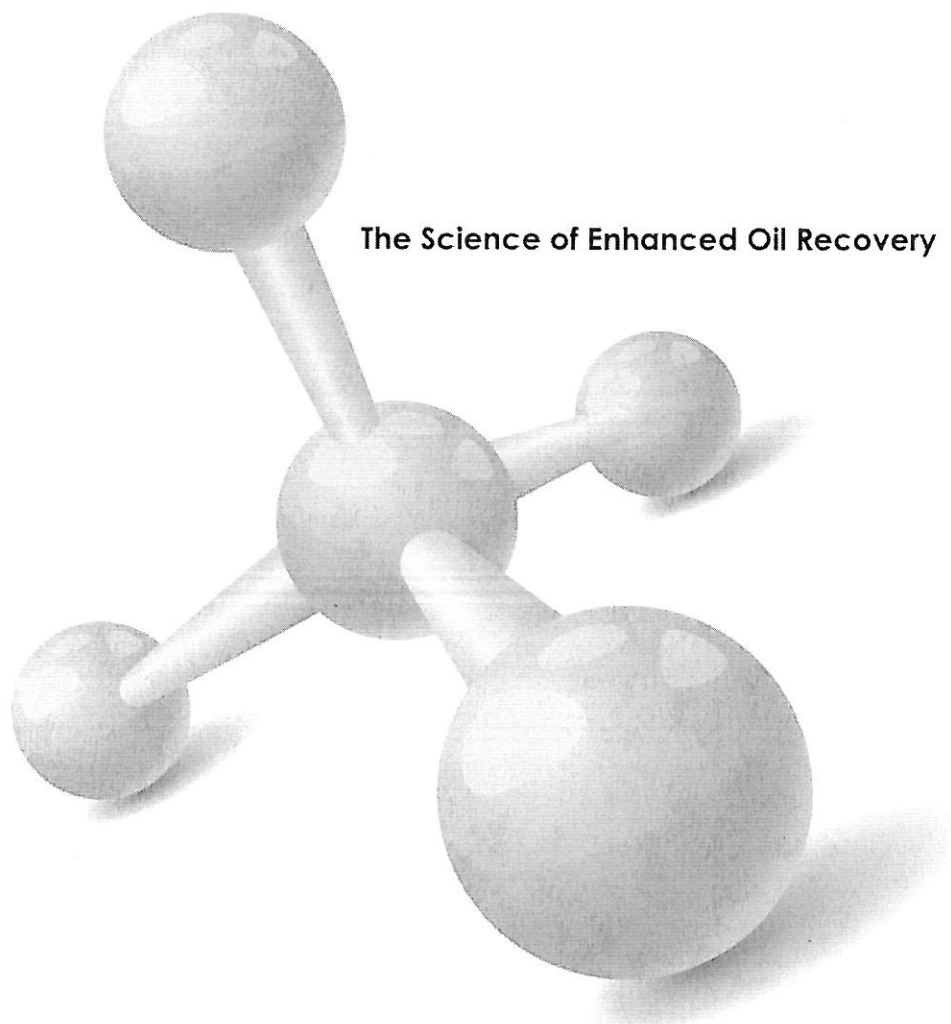
Qty	Description	Footage
117	2-3/8" tbg	3722.00'
1	2-3/8" x 4-1/2" TAC	
1	2-3/8" tbg	
1	2-3/8" x 1-3/4" x 15' x 18' TP	
1	15' x 2-3/8" MA (BOMA @ 3790')	
<b>TOTAL</b>		<b>3722.00'</b>

**Rod Breakdown**

Qty	Description	Footage
1	1-1/4" x 16' Polish rod w/ 1-1/2" x 8' lnr	16.00'
	7/8" pony rods	14.00'
62	7/8" rods	1550.00'
76	3/4" rods	1900.00'
12	7/8" rods	300.00'
1	4' metal plunger	4.00'
<b>TOTAL</b>		<b>3784.00'</b>

**Comments**

PREPARED BY: JH      UPDATED: 10/30/2012



The Science of Enhanced Oil Recovery

Treatment Summary For

**Citation Oil & Gas Corp.**

**MARCIT<sup>sm</sup> Gel Conformance  
Cooper Field  
McClellan #11  
Graham County, Kansas**

November 13, 2012

**TIORCO**  
A NALCO & STEPAN COMPANY

## **TREATMENT SUMMARY**

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### **PURPOSE**

Use MARCIT<sup>sm</sup> polymer gel technology to 1) decrease water production, 2) lower producing fluid level, 3) improve draw-down on oil-saturated reservoir matrix rock, 4) improve oil recovery and well economics.

### **TREATMENT**

TIORCO equipment and personnel arrived on location on November 10, 2012. A tailgate safety meeting was held to discuss all potential hazards specific to the job. TIORCO's Portable Unit #17 was connected to frac tanks for treatment supply water and to the wellhead for polymer solution injection. The unit was then connected to an electrical source. The treatment consisted of 774 BBLs of gel. The treatment started on November 10, 2012 at 10:00 and ended on November 11, 2012 at 05:29. The gel was made-up of 935 lbs. of EOR204 (Medium molecular weight polymer) and 203 lbs. of EOR684 (crosslinker). Details for each stage of the treatment, job log, and injection charts are included.

### **MARCIT<sup>sm</sup> GEL QA/QC**

Representative samples of cross-linked polymer solution were collected during all treatment stages to ensure that the intended gels would ultimately form. Pre-gel samples were stored at a temperature of 120°F in an oven onboard the TIORCO portable polymer injection unit. All samples indicated that gels formed as intended.

TIORCO is very interested in monitoring and evaluating the results of this treatment with time. If you should have questions or comments regarding the job, please do not hesitate to contact Mike Lantz in our Denver office at (303) 923-6440. We greatly appreciate the opportunity to be of service to Citation Oil & Gas Corp. and look forward to working with you again in the future.



## TREATMENT STAGE LOG

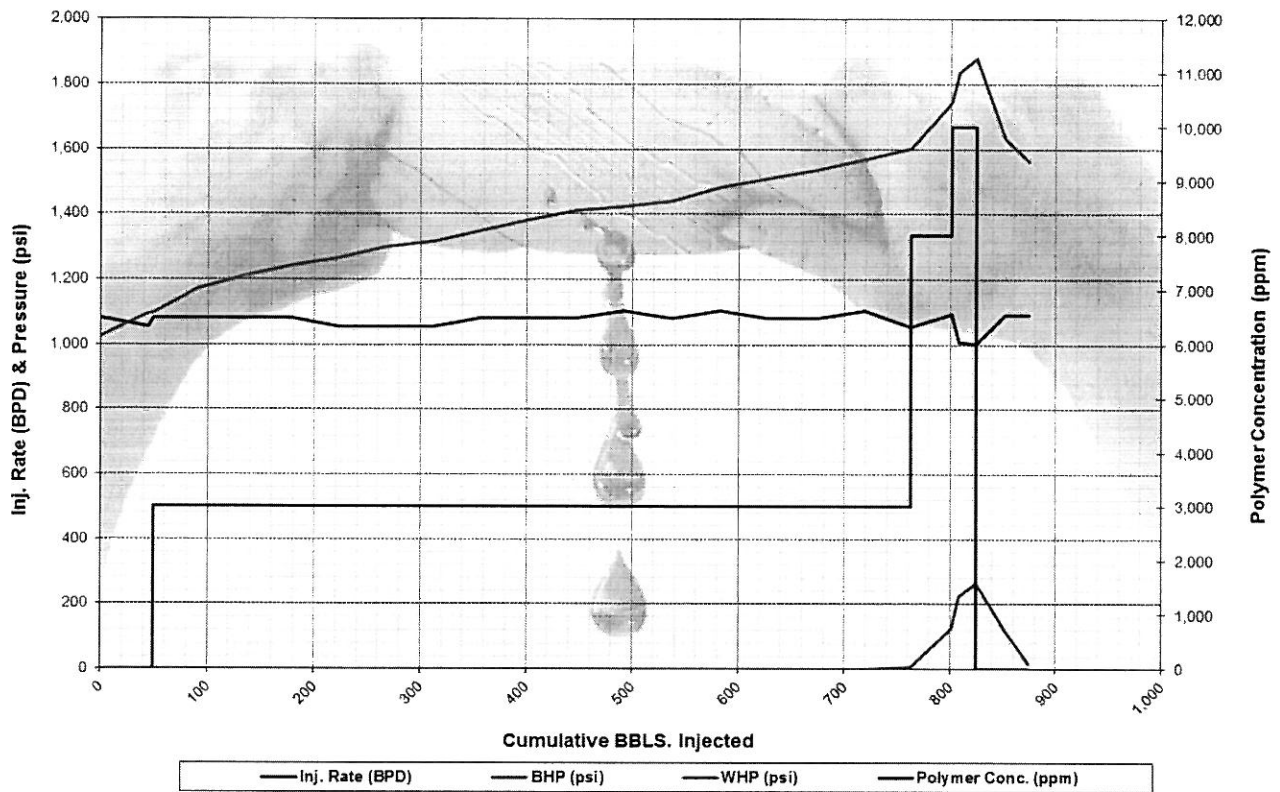
Stage	Date		Time		Polymer ppm	BBLs / Stage	WHP (psi)		BHP (psi)		Pump Rate (bpd)		Comments
	Begin	End	Begin	End			Begin	End	Begin	End	Begin	End	
1	11/10/12	11/10/12	10:00 AM	11:08 AM	0	50	0	0	1,025	1,097	1,080	1,080	Stage #1. Flush with CRO195/X-Cide 102w
2	11/10/12	11/11/12	11:08 AM	3:00 AM	3,000	713	0	5	1,097	1,601	1,080	1,080	Stage #2 @ 3,000 ppm with X-Cide 102w
3	11/11/12	11/11/12	3:00 AM	3:50 AM	8,000	38	5	125	1,601	1,743	1,080	1,080	Stage #3 @ 8,000 ppm with X-Cide 102w
4	11/11/12	11/11/12	3:50 AM	4:23 AM	10,000	23	125	265	1,743	1,879	1,080	1,080	Stage #4 @ 10,000 ppm with X-Cide 102w
5	11/11/12	11/11/12	4:23 AM	5:29 AM	0	50	265	15	1,879	1,561	1,080	1,080	Stage #5 Flush with CRO195/X-Cide 102w
Totals						874							

## MARCIT<sup>SM</sup> GEL QA/QC

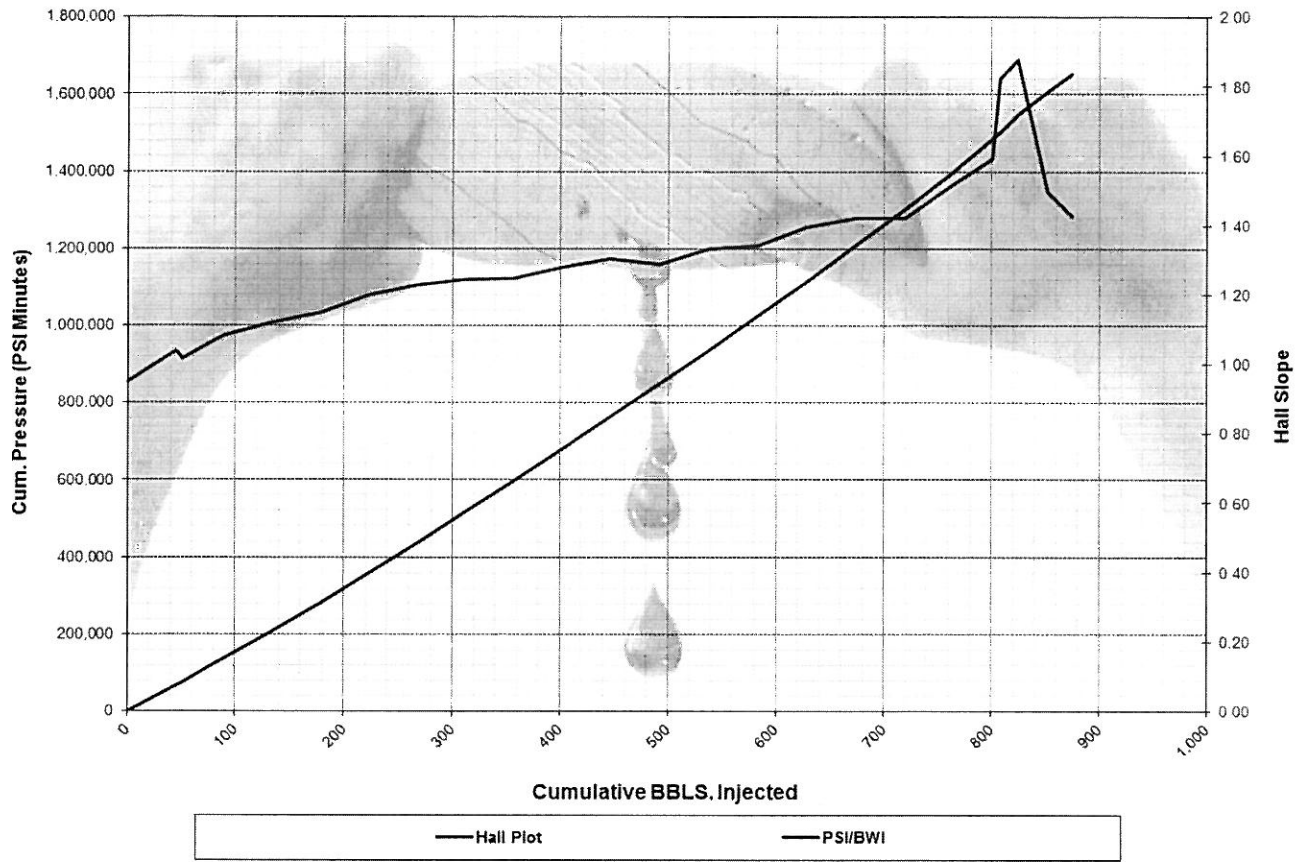
Sample No.	Treatment Stage	Sample Date	Sample Time	Cum. Bbls.	Polymer ppm	Polymer:X-Linker Ratio	Comments
1	2	11/10/12	12:17	102	3,000	40:1	Graded 2s
2	2	11/11/12	00:00	628	3,000	40:1	Graded 3g
3	2	11/11/12	02:00	719	3,000	40:1	Graded 3g
4	3	11/11/12	03:40	794	8,000	40:1	Graded 8e
5	4	11/11/12	04:20	822	10,000	40:1	Graded 9e



# RATE, PRESSURE, & CONCENTRATION



# HALL SLOPE





# TREATMENT JOB LOG

DATE	TIME	INJECTION RATE		CUM. INJ BBLs	WHP PSI	BHP PSI	HALL SLOPE	Polymer PPM	POLYMER LBS	COMMENTS
		BPD	BPM							
10-Nov-12	10:00	1,080	0.75	0	0	1,025	0.95	0	0	Begin Stage #1: 50 BBL Flush with CRO 195 & X-Cide 102w
10-Nov-12	11:00	1,056	0.73	44	0	1,095	1.04	0	0	
10-Nov-12	11:08	1,080	0.75	50	0	1,097	1.02	0	0	End Stage #1:
10-Nov-12	11:08	1,080	0.75	50	0	1,097	1.02	3,000	0	Begin Stage #2: 3,000 ppm EOR204 / EOR684 with X-Cide 102w
10-Nov-12	12:00	1,080	0.75	89	0	1,170	1.08	3,000	41	12:17. Took Sample #1 @ 102 BBLs: Graded 2s
10-Nov-12	13:00	1,080	0.75	134	0	1,211	1.12	3,000	88	
10-Nov-12	14:00	1,080	0.75	179	0	1,242	1.15	3,000	135	
10-Nov-12	15:00	1,056	0.73	223	0	1,267	1.20	3,000	181	
10-Nov-12	16:00	1,056	0.73	267	0	1,297	1.23	3,000	228	
10-Nov-12	17:00	1,056	0.73	311	0	1,315	1.25	3,000	274	
10-Nov-12	18:00	1,080	0.75	356	0	1,348	1.25	3,000	321	
10-Nov-12	19:00	1,080	0.75	401	0	1,381	1.28	3,000	368	
10-Nov-12	20:00	1,080	0.75	446	0	1,410	1.31	3,000	415	
10-Nov-12	21:00	1,104	0.77	492	0	1,424	1.29	3,000	464	
10-Nov-12	22:00	1,080	0.75	537	0	1,439	1.33	3,000	511	
10-Nov-12	23:00	1,104	0.77	583	0	1,483	1.34	3,000	559	
11-Nov-12	0:00	1,080	0.75	628	0	1,509	1.40	3,000	606	Took Sample #2 @ 628 BBLs: Graded 3g
11-Nov-12	1:00	1,080	0.75	673	0	1,536	1.42	3,000	653	
11-Nov-12	2:00	1,104	0.77	719	0	1,570	1.42	3,000	702	Took Sample #3 @ 719 BBLs: Graded 3g
11-Nov-12	3:00	1,056	0.73	763	5	1,601	1.52	3,000	748	End Stage #2.
11-Nov-12	3:00	1,056	0.73	763	5	1,601	1.52	8,000	748	Begin Stage #3. 8,000 ppm EOR204/EOR684 with X-Cide 102w
11-Nov-12	3:50	1,094	0.76	801	125	1,743	1.59	8,000	854	Took Sample #4 @ 03:40. 794 BBLs: Graded 8e. End Stage #3.
11-Nov-12	3:50	1,094	0.76	801	125	1,743	1.59	10,000	854	Begin Stage #4. 10,000 ppm EOR204/EOR684 with X-Cide 102w
11-Nov-12	4:00	1,008	0.70	808	225	1,837	1.82	10,000	879	04:20 Took Sample #5 @ 822 BBLs: Graded 9e
11-Nov-12	4:23	1,002	0.70	824	265	1,879	1.88	10,000	935	End Stage #4.
11-Nov-12	4:23	1,002	0.70	824	265	1,879	1.88	0	935	Begin Stage #5. Water flush with CRO-195 & X-Cide 102w
11-Nov-12	5:00	1,090	0.76	852	120	1,630	1.50	0	935	
11-Nov-12	5:29	1,092	0.76	874	15	1,561	1.43	0	935	End Stage #5. Treatment Completed.

