



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1122678
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

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
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

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

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical 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

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____



1122678

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops 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.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

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
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

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

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> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Citation Oil & Gas Corp.
Well Name	Baumer 65
Doc ID	1122678

All Electric Logs Run

Dual Induction Log
Micro Log
Compensated Neutron Log
Geologist Log

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6592

Date	Sec.	Twp.	Range	County	State	On Location	Finish	
3-21-13	27	11	17	Ellis	KS	400m		
Lease <u>Baumer</u>				Well No. <u>685</u>	Location <u>Victory N to Corbett HD No</u>			
Contractor <u>[Signature]</u>				Owner <u>Victory Site Win 10</u>				
Type Job <u>[Signature]</u>				To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.				
Hole Size <u>13 3/8</u>	T.D. <u>60</u>			Charge To <u>Costal</u>				
Csg. <u>13 3/8</u>	Depth <u>54</u>			Street <u>Costal</u>				
Tbg. Size	Depth			City		State		
Tool				Depth				
Cement Left in Csg. <u>13 3/8</u>				Shoe Joint <u>13 3/8</u>		Cement Amount Ordered <u>150 4 1/2 11 2 1/2</u>		
Meas Line <u>54#</u>				Displace <u>11011</u>				
EQUIPMENT								
Pumptrk	No.	Cementer	Helper <u>[Signature]</u>		Common			
Bulktrk	No.	Driver	Driver <u>[Signature]</u>		Poz. Mix			
Bulktrk	No.	Driver	Driver <u>[Signature]</u>		Gel.			
Bulktrk	No.	Driver	Driver <u>[Signature]</u>		Calcium			
JOB SERVICES & REMARKS								
Remarks:				Hulls				
Rat Hole				Salt				
Mouse Hole				Flowseal				
Centralizers				Kol-Seal				
Baskets				Mud CLR 48				
D/V or Port Collar				CFL-117 or CD110 CAF 38				
<u>Mixed 200 Sks</u>				Sand				
<u>displaced 9.5 Bkt</u>				Handling				
<u>Water Sat 15m all</u>				Mileage				
<u>Water fluid was gone</u>				FLOAT EQUIPMENT				
				Guide Shoe				
				Centralizer <u>Conductor 1st Job</u>				
				Baskets				
				AFU Inserts				
				Float Shoe				
				Latch Down				
				Pumptrk Charge				
				Mileage				
				Tax				
				Discount				
				Total Charge				
X Signature <u>[Signature]</u>								

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6593

Date	3-22-13	Sec.	27	Twp.	11	Range	17	County	ETS	State	KS	On Location		Finish	6:00 PM
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Lease Baumer Well No. 66 Location Victory N W to Odell N

Owner Citation West Inc
To Quality Oilwell Cementing, Inc.

Contractor Duke 2
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Type Job Conductor Charge To Citation

Hole Size 7 7/8 T.D. 99 Street Citation

Csg. 1336 Depth 96 City _____ State _____

Tbg. Size _____ Depth _____ The above was done to satisfaction and supervision of owner agent or contractor.

Tool _____ Depth _____ Cement Amount Ordered 300 lbm 4% CC

Cement Left in Csg. 15 ft Shoe Joint 15 ft Cement Amount Ordered 300 lbm 4% CC

Meas Line 547 Displace 13.13L 24 gal Common _____

EQUIPMENT
Pumptrk 16 No. _____ Cementer _____ Helper Mike Poz. Mix _____

Bulktrk 13 No. _____ Driver _____ Gel. _____

Bulktrk 14 No. _____ Driver Billy Driver Doug Calcium _____

JOB SERVICES & REMARKS
Hulls _____

Remarks: _____ Salt _____

Rat Hole _____ Flowseal _____

Mouse Hole _____ Kol-Seal _____

Centralizers _____ Mud CLR 48 _____

Baskets _____ CFL-117 or CD110 CAF 38 _____

D/V or Port Collar _____ Sand _____

Mixed 125 SWS Handling _____

displaced 11. BBL Mileage _____

Cement did **FLOAT EQUIPMENT**
Guide Shoe conductor 2nd job

Circulate Centralizer _____

Baskets 13 3/8 Baskets _____

AFU Inserts _____

Float Shoe _____

Latch Down _____

Pumptrk Charge _____

Mileage _____

Signature [Signature] Tax _____

Discount _____ Total Charge _____

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

Home Office P.O. Box 32 Russell, KS 67665

No. 8470

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
3-24-13	27	11	17	Ellis	KS		4.45H

Location A. B. Baker, P.O. Box 35 W. Pitt

Lease Baumer	Well No. 65	Owner
Contractor Duke #1		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Type Job Surface		Charge To Central Oil
Hole Size 12 1/4	T.D. 1287	Street
Csg. 8 5/8	Depth 1287	City
Tbg. Size	Depth	State
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg. 63	Shoe Joint 63	Cement Amount Ordered 500 lb 3% CC 29/071

Meas Line Displace **77 3/4 BC**

EQUIPMENT

Pumptrk 9	No. Cementer Craig	Helper
Bulktrk	No. Driver 614	Driver
Bulktrk 13	No. Driver Doug	Driver

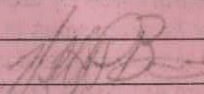
Common
Poz. Mix
Gel.
Calcium
Hulls
Salt
Flowseal
Kol-Seal
Mud CLR 48
CFL-117 or CD110 CAF 38
Sand
Handling
Mileage

JOB SERVICES & REMARKS

Remarks:
 Rat Hole
 Mouse Hole
 Centralizers
 Baskets
 D/V or Port Collar
8 5/8 on bottom. Est Circulation
Mix sticky Displace Plug
Bottom Hole set @ 1224
Cement Circulated!

FLOAT EQUIPMENT

Guide Shoe 8 5/8
Centralizer 12
Baskets Bottom Plate
AFU Inserts Rubber Plug
Float Shoe
Latch Down
Pumptrk Charge
Mileage

X Signature 

Tax
Discount
Total Charge

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6552

Date	Sec.	Twp.	Range	County	State	On Location	Finish
3-29-13	27	11	17	ELLIS	KANSAS		3:00pm
Lease BAUMER				Well No. #105		Location CODELL 10 1/2 N - W / INTD	
Contractor DUKE #2				Owner CITATION OIL			
Type Job PLUG-STRING				To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.			
Hole Size 1 7/8		T.D.		Charge To CITATION OIL			
Csg. 5 1/2 - 15 LB - NEW		Depth 31018'		Street 14077 CUTTEN RD			
Tbg. Size		Depth		City HOUSTON		State TX 77269	
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.			
Cement Left in Csg.		Shoe Joint 605'		Cement Amount Ordered 235 COM - 10 GAL - 2 GAL GEL X FLD			
Meas Line		Displace 87 BBLs					
EQUIPMENT				Common			
Pumptrk #16	No.	Cementer		Poz. Mix			
		Helper	TRAVIS				
Bulktrk #14	No.	Driver		Gel.			
		Driver	DOUG				
Bulktrk #16	No.	Driver		Calcium			
		Driver	OT-800				
JOB SERVICES & REMARKS				Hulls			
Remarks:				Salt			
Rat Hole 30 SKS				Flowseal			
Mouse Hole				Kol-Seal			
Centralizers				Mud CLR 48 500 GAL			
Baskets				CFL-117 or CD110 CAF 38			
D/V or Port Collar				Sand			
DROPPED BALL - BROKE CIRCULATION				Handling			
CIRCULATED ON BOTTOM 30 MIN -				Mileage			
JUMPED AND FLUSH - PLUGGED RAT-				FLOAT EQUIPMENT			
HOLE 30 SKS - MIXED & PUMPED -				Guide Shoe			
205 SKS - DOWN 5 1/2" - WASHED -				Centralizer 12 - 5 1/2" TURBOS			
TRUCK - DROPPED PLUG - DISPLACED				Baskets 2 - 5 1/2"			
PLUG LANNED & HELD.				AFU Inserts			
LEFT PRESSURE @ 1300 LBS				Float Shoe 1 - 5 1/2" WELD-ON			
PLUG LANNED @ 87 BBLs 1300 LBS.				Latch Down 1 - 5 1/2" W/PLUG			
				Pumptrk Charge			
				Mileage			
THANK YOU!				Tax			
Signature Dion Vasquez				Discount			
				Total Charge			

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



Phone: 316-337-6200
Fax: 316-337-6211
<http://kcc.ks.gov/>

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

April 02, 2013

Tami Troxel
Citation Oil & Gas Corp.
14077 Cutten Rd
PO BOX 690688
HOUSTON, TX 77269-0688

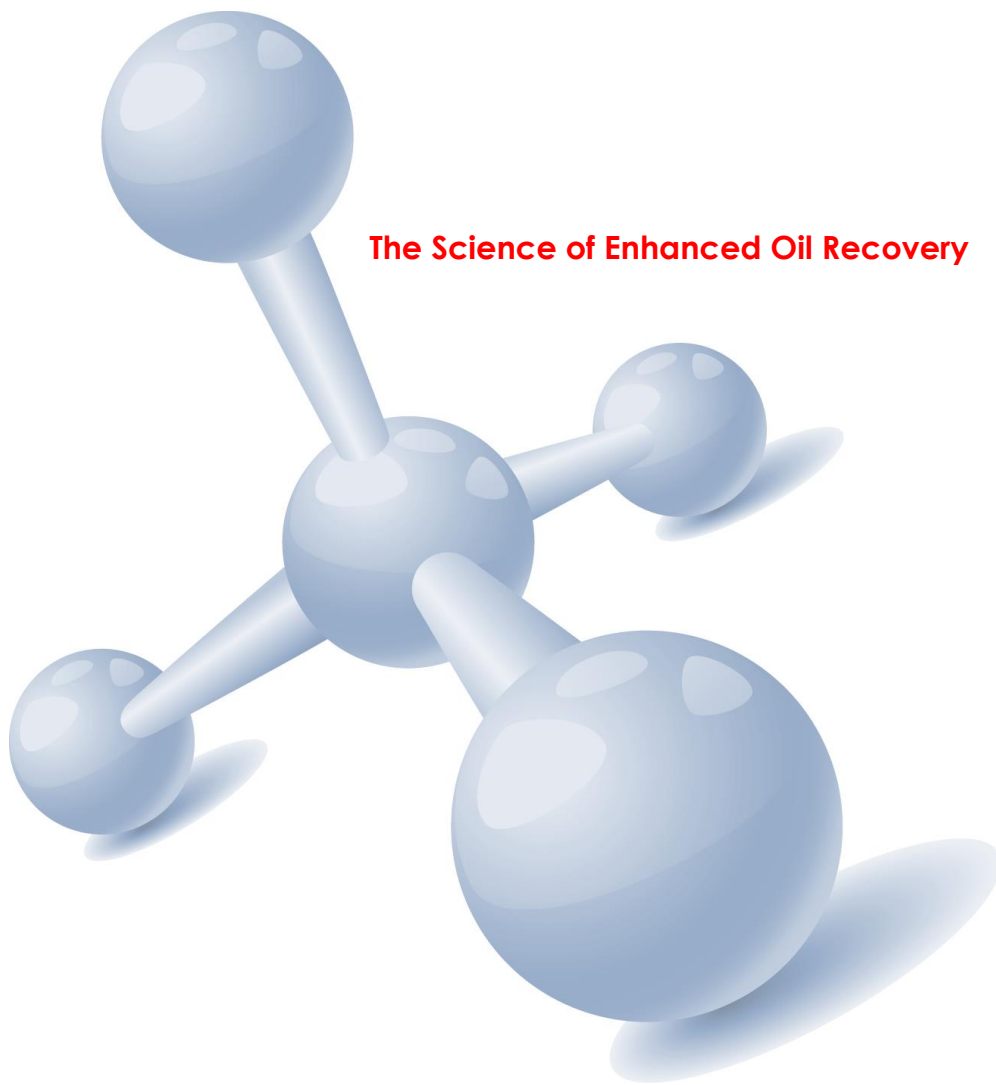
Re: ACO1
API 15-051-26449-00-00
Baumer 65
NW/4 Sec.27-11S-17W
Ellis County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Tami Troxel



The Science of Enhanced Oil Recovery

Treatment Summary For

Citation Oil & Gas Corp.

MARCITsm Gel Conformance

Bemis-Shutts

Baumer #65

Ellis County, Kansas

April 22, 2013

TIORCO
A NALCO & STEPAN COMPANY

TREATMENT SUMMARY

PURPOSE

Use MARCITsm 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 April 16, 2013. 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 6,160 BBLS of gel. The treatment started on April 16, 2013 at 14:00 and ended on April 22, 2013 at 10:06. The gel was made-up of 12,980 lbs. of EOR204 (Medium molecular weight polymer) and 2,819 lbs. of EOR684 (crosslinker). Details for each stage of the treatment, job log, and injection charts are included.

MARCITsm 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

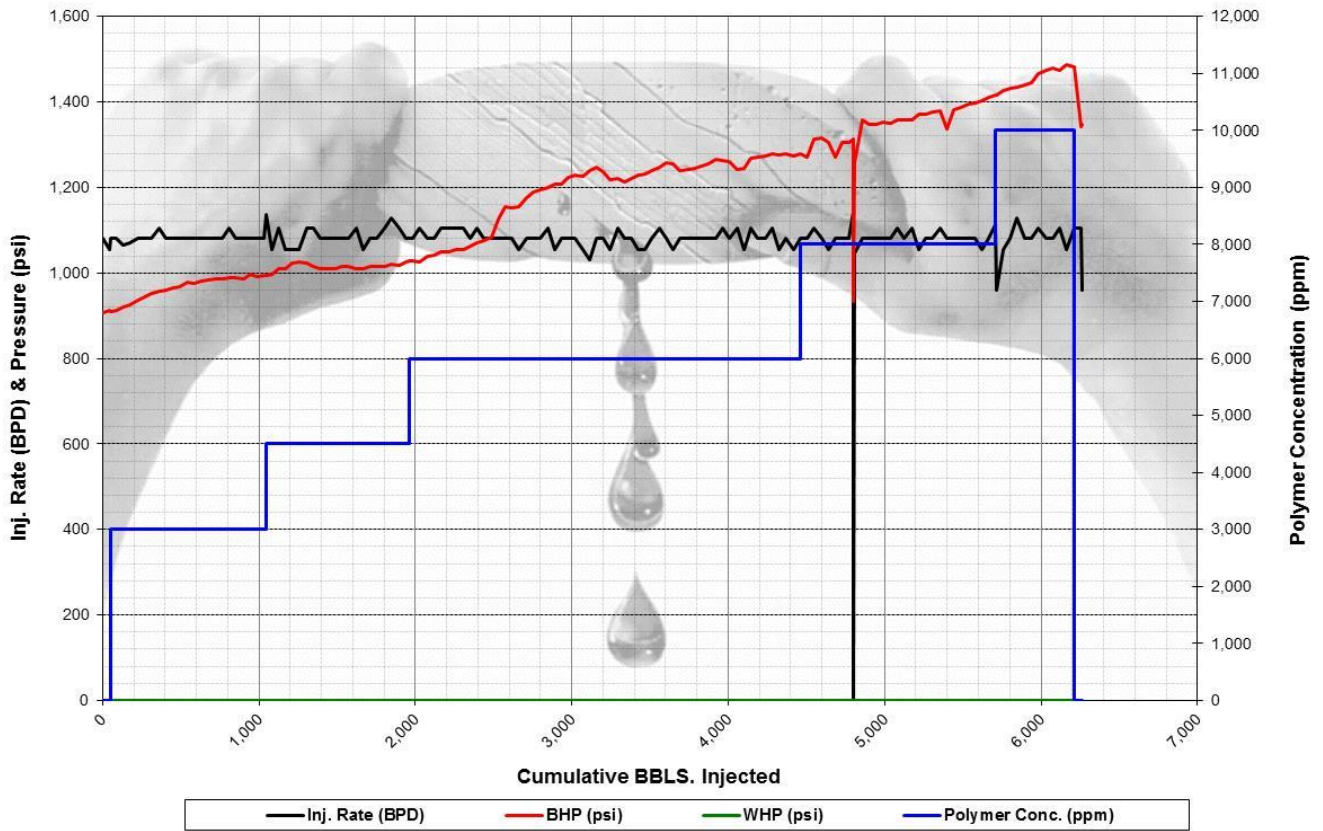
Stage	Date	Time	Date	Time	Polymer ppm	BBLs / Stage	WHP (psi)		BHP (psi)		Pump Rate (bpd)		Comments
	Begin	Begin	End	End			Begin	End	Begin	End	Begin	End	
1	4/16/13	2:00 PM	4/16/13	3:08 PM	0	50	0	VAC	908	910	1,080	1,080	Stage #1: Water Flush w/ RU189 & K31
2	4/16/13	3:08 PM	4/17/13	1:19 PM	3,000	1,000	VAC	VAC	910	995	1,080	1,080	Stage #2: 3,000 PPM w/ K31w
3	4/17/13	1:19 PM	4/18/13	9:28 AM	4,500	910	VAC	VAC	995	1,028	1,080	1,080	Stage #3: 4,500 PPM w/ K31w
4	4/18/13	9:28 AM	4/20/13	5:00 PM	6,000	2,500	VAC	VAC	1,028	1,279	1,080	1,080	Stage #4: 6,000 PPM w/ K31w
5	4/20/13	5:00 PM	4/21/13	9:57 PM	8,000	1,250	VAC	VAC	1,279	1,415	1,080	1,080	Stage #5: 8,000 PPM w/ K31w
6	4/21/13	9:57 PM	4/22/13	9:00 AM	10,000	500	VAC	VAC	1,415	1,483	1,080	1,080	Stage #6: 10,000 PPM w/ K31w
7	4/22/13	9:00 AM	4/22/13	10:06 AM	0	50	VAC	VAC	1,483	1,348	1,080	1,080	Stage #7: Water Flush w/ RU189 & K31
Totals						6,260							

MARCITSM GEL QA/QC

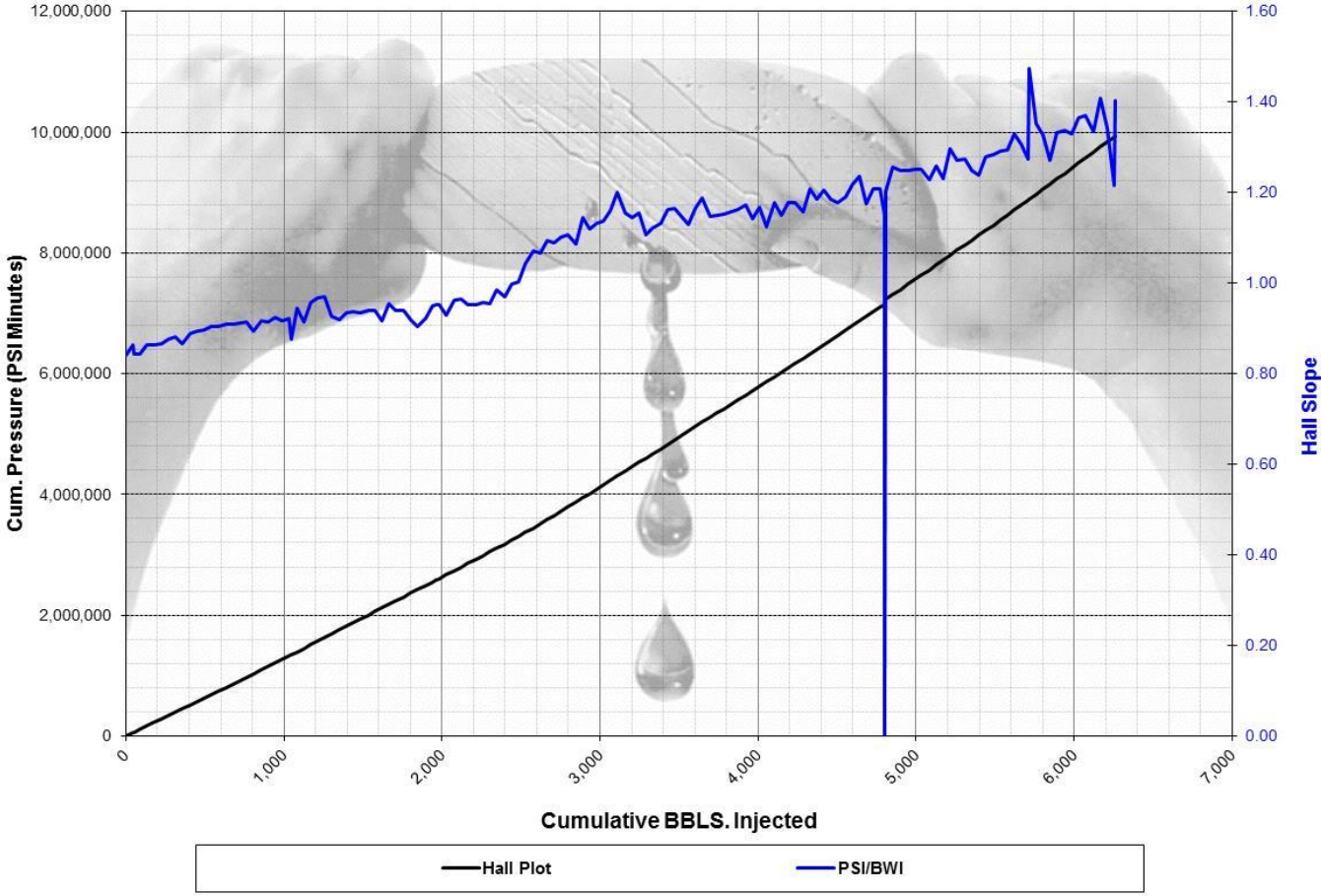
Sample No.	Treatment Stage	Sample Date	Sample Time	Cum. Bbls.	Polymer ppm	Polymer:X-Linker Ratio	Comments
1	2	04/16/13	18:00	178	3,000	40:1	Graded 2s+
2	2	04/17/13	00:00	449	3,000	40:1	Graded 2s
3	2	04/17/13	12:00	990	3,000	40:1	Graded 3g
4	3	04/17/13	15:00	1,126	4,500	40:1	Graded 3g+
5	3	04/17/13	21:00	1,395	4,500	40:1	Graded 4g
6	3	04/18/13	00:00	1,530	4,500	40:1	Graded 4g
7	4	04/18/13	11:00	2,030	6,000	40:1	Graded 6g
8	4	04/19/13	00:00	2,620	6,000	40:1	Graded 5g
9	4	04/19/13	10:00	3,068	6,000	40:1	Graded 5g
10	4	04/19/13	13:00	3,201	6,000	40:1	Graded 5g
11	4	04/20/13	00:00	3,694	6,000	40:1	Graded 3g
12	4	04/20/13	12:00	4,236	6,000	40:1	Graded 5g
13	4	04/20/13	16:00	4,371	6,000	40:1	Graded 6g
14	5	04/20/13	19:00	4,551	8,000	40:1	Graded 8g
15	5	04/21/13	00:00	4,775	8,000	40:1	Graded 8g
16	5	04/21/13	12:00	5,261	8,000	40:1	Graded 8g
17	5	04/21/13	21:00	5,666	8,000	40:1	Graded 8g
18	6	04/22/13	00:00	5,801	10,000	40:1	Graded 9e
19	6	04/22/13	08:00	6,164	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: Estimate	COMMENTS
		BPD	BPM							
16-Apr-13	14:00	1,080	0.75	0	0	908	0.84	0	0	Stage #1: Water Flush with Champion K-31w and RU189
16-Apr-13	15:00	1,056	0.73	44	0	911	0.86	0	0	
16-Apr-13	15:08	1,080	0.75	50	0	910	0.84	0	0	End Stage #1
16-Apr-13	15:08	1,080	0.75	50	0	910	0.84	3,000	0	Begin Stage #2: 3,000 PPM with Champion K-31w
16-Apr-13	16:00	1,080	0.75	89	0	912	0.84	3,000	41	
16-Apr-13	17:00	1,066	0.74	133	0	919	0.86	3,000	87	
16-Apr-13	18:00	1,070	0.74	178	0	925	0.86	3,000	134	Took Sample #1: Graded 2s+
16-Apr-13	19:00	1,080	0.75	223	0	936	0.87	3,000	181	
16-Apr-13	20:00	1,080	0.75	268	0	945	0.88	3,000	229	
16-Apr-13	21:00	1,080	0.75	313	0	953	0.88	3,000	276	
16-Apr-13	22:00	1,104	0.77	359	0	956	0.87	3,000	324	
16-Apr-13	23:00	1,080	0.75	404	0	961	0.89	3,000	371	
17-Apr-13	0:00	1,080	0.75	449	0	966	0.89	3,000	419	Took Sample #2: Graded 2s
17-Apr-13	1:00	1,080	0.75	494	0	969	0.90	3,000	466	
17-Apr-13	2:00	1,080	0.75	539	0	977	0.90	3,000	513	
17-Apr-13	3:00	1,080	0.75	584	0	976	0.90	3,000	560	
17-Apr-13	4:00	1,080	0.75	629	0	981	0.91	3,000	607	
17-Apr-13	5:00	1,080	0.75	674	0	983	0.91	3,000	655	
17-Apr-13	6:00	1,080	0.75	719	0	985	0.91	3,000	702	
17-Apr-13	7:00	1,080	0.75	764	0	986	0.91	3,000	749	
17-Apr-13	8:00	1,104	0.77	810	0	988	0.89	3,000	797	
17-Apr-13	9:00	1,080	0.75	855	0	989	0.92	3,000	844	
17-Apr-13	10:00	1,080	0.75	900	0	987	0.91	3,000	892	
17-Apr-13	11:00	1,080	0.75	945	0	998	0.92	3,000	939	
17-Apr-13	12:00	1,080	0.75	990	0	991	0.92	3,000	986	Took Sample #3: Graded 3g
17-Apr-13	13:00	1,080	0.75	1,035	0	995	0.92	3,000	1,033	
17-Apr-13	13:19	1,137	0.79	1,050	0	995	0.88	3,000	1,049	End Stage # 2.
17-Apr-13	13:19	1,137	0.79	1,050	0	995	0.88	4,500	1,049	Begin Stage #3: 4,500 PPM with Champion K-31w
17-Apr-13	14:00	1,054	0.73	1,080	0	996	0.95	4,500	1,096	
17-Apr-13	15:00	1,104	0.77	1,126	0	1,010	0.91	4,500	1,169	Took Sample #4: Graded 4g
17-Apr-13	16:00	1,056	0.73	1,170	0	1,011	0.96	4,500	1,238	
17-Apr-13	17:00	1,056	0.73	1,214	0	1,022	0.97	4,500	1,307	
17-Apr-13	18:00	1,056	0.73	1,258	0	1,025	0.97	4,500	1,376	
17-Apr-13	19:00	1,104	0.77	1,304	0	1,023	0.93	4,500	1,449	
17-Apr-13	20:00	1,104	0.77	1,350	0	1,016	0.92	4,500	1,521	
17-Apr-13	21:00	1,080	0.75	1,395	0	1,009	0.93	4,500	1,592	Took Sample #5: Graded 4g
17-Apr-13	22:00	1,080	0.75	1,440	0	1,011	0.94	4,500	1,663	
17-Apr-13	23:00	1,080	0.75	1,485	0	1,009	0.93	4,500	1,733	
18-Apr-13	0:00	1,080	0.75	1,530	0	1,014	0.94	4,500	1,804	Took Sample #6: Graded 4g
18-Apr-13	1:00	1,080	0.75	1,575	0	1,014	0.94	4,500	1,875	
18-Apr-13	2:00	1,104	0.77	1,621	0	1,011	0.92	4,500	1,947	
18-Apr-13	3:00	1,056	0.73	1,665	0	1,009	0.96	4,500	2,017	
18-Apr-13	4:00	1,080	0.75	1,710	0	1,016	0.94	4,500	2,087	
18-Apr-13	5:00	1,080	0.75	1,755	0	1,016	0.94	4,500	2,158	
18-Apr-13	6:00	1,104	0.77	1,801	0	1,014	0.92	4,500	2,231	
18-Apr-13	7:00	1,128	0.78	1,848	0	1,021	0.91	4,500	2,305	
18-Apr-13	8:00	1,104	0.77	1,894	0	1,019	0.92	4,500	2,377	
18-Apr-13	9:00	1,080	0.75	1,939	0	1,026	0.95	4,500	2,448	
18-Apr-13	9:28	1,080	0.75	1,960	0	1,028	0.95	4,500	2,481	End Stage #3
18-Apr-13	9:28	1,080	0.75	1,960	0	1,028	0.95	6,000	2,481	Begin Stage #4: 6,000 PPM with Champion K-31w
18-Apr-13	10:00	1,080	0.75	1,984	0	1,028	0.95	6,000	2,531	
18-Apr-13	11:00	1,104	0.77	2,030	0	1,027	0.93	6,000	2,628	Took Sample #7: Graded 6g
18-Apr-13	12:00	1,080	0.75	2,075	0	1,039	0.96	6,000	2,722	
18-Apr-13	13:00	1,080	0.75	2,120	0	1,041	0.96	6,000	2,816	
18-Apr-13	14:00	1,104	0.77	2,166	0	1,050	0.95	6,000	2,913	
18-Apr-13	15:00	1,104	0.77	2,212	0	1,050	0.95	6,000	3,009	
18-Apr-13	16:00	1,104	0.77	2,258	0	1,056	0.96	6,000	3,106	
18-Apr-13	17:00	1,104	0.77	2,304	0	1,055	0.96	6,000	3,202	
18-Apr-13	18:00	1,080	0.75	2,349	0	1,063	0.98	6,000	3,297	
18-Apr-13	19:00	1,104	0.77	2,395	0	1,071	0.97	6,000	3,393	
18-Apr-13	20:00	1,080	0.75	2,440	0	1,077	1.00	6,000	3,488	
18-Apr-13	21:00	1,080	0.75	2,485	0	1,084	1.00	6,000	3,582	
18-Apr-13	22:00	1,080	0.75	2,530	0	1,127	1.04	6,000	3,677	
18-Apr-13	23:00	1,080	0.75	2,575	0	1,156	1.07	6,000	3,771	



DATE	TIME	INJECTION RATE		CUM. INJ BBLs	WHP PSI	BHP PSI	HALL SLOPE	Polymer PPM	POLYMER LBS: Estimate	COMMENTS
		BPD	BPM							
19-Apr-13	0:00	1,080	0.75	2,620	0	1,152	1.07	6,000	3,865	Took Sample #8: Graded 5g
19-Apr-13	1:00	1,056	0.73	2,664	0	1,155	1.09	6,000	3,958	
19-Apr-13	2:00	1,080	0.75	2,709	0	1,177	1.09	6,000	4,052	
19-Apr-13	3:00	1,080	0.75	2,754	0	1,189	1.10	6,000	4,147	
19-Apr-13	4:00	1,080	0.75	2,799	0	1,194	1.11	6,000	4,241	
19-Apr-13	5:00	1,104	0.77	2,845	0	1,199	1.09	6,000	4,337	
19-Apr-13	6:00	1,056	0.73	2,889	0	1,209	1.14	6,000	4,430	
19-Apr-13	7:00	1,080	0.75	2,934	0	1,208	1.12	6,000	4,524	
19-Apr-13	8:00	1,080	0.75	2,979	0	1,223	1.13	6,000	4,619	
19-Apr-13	9:00	1,080	0.75	3,024	0	1,228	1.14	6,000	4,713	
19-Apr-13	10:00	1,056	0.73	3,068	0	1,225	1.16	6,000	4,805	Took Sample #9: Graded 5g
19-Apr-13	11:00	1,032	0.72	3,111	0	1,240	1.20	6,000	4,895	
19-Apr-13	12:00	1,080	0.75	3,156	0	1,247	1.15	6,000	4,990	
19-Apr-13	13:00	1,080	0.75	3,201	0	1,236	1.14	6,000	5,084	Took Sample #10: Graded 5g
19-Apr-13	14:00	1,056	0.73	3,245	0	1,219	1.15	6,000	5,177	
19-Apr-13	15:00	1,104	0.77	3,291	0	1,222	1.11	6,000	5,273	
19-Apr-13	16:00	1,080	0.75	3,336	0	1,213	1.12	6,000	5,367	
19-Apr-13	17:00	1,080	0.75	3,381	0	1,222	1.13	6,000	5,462	
19-Apr-13	18:00	1,056	0.73	3,425	0	1,228	1.16	6,000	5,554	
19-Apr-13	19:00	1,056	0.73	3,469	0	1,231	1.17	6,000	5,647	
19-Apr-13	20:00	1,080	0.75	3,514	0	1,239	1.15	6,000	5,741	
19-Apr-13	21:00	1,104	0.77	3,560	0	1,248	1.13	6,000	5,837	
19-Apr-13	22:00	1,080	0.75	3,605	0	1,259	1.17	6,000	5,932	
19-Apr-13	23:00	1,056	0.73	3,649	0	1,255	1.19	6,000	6,024	
20-Apr-13	0:00	1,080	0.75	3,694	0	1,239	1.15	6,000	6,119	Took Sample #11: Graded 3g
20-Apr-13	1:00	1,080	0.75	3,739	0	1,242	1.15	6,000	6,213	
20-Apr-13	2:00	1,080	0.75	3,784	0	1,244	1.15	6,000	6,307	
20-Apr-13	3:00	1,080	0.75	3,829	0	1,249	1.16	6,000	6,402	
20-Apr-13	4:00	1,080	0.75	3,874	0	1,255	1.16	6,000	6,496	
20-Apr-13	5:00	1,080	0.75	3,919	0	1,265	1.17	6,000	6,591	
20-Apr-13	6:00	1,104	0.77	3,965	0	1,262	1.14	6,000	6,687	
20-Apr-13	7:00	1,080	0.75	4,010	0	1,261	1.17	6,000	6,781	
20-Apr-13	8:00	1,104	0.77	4,056	0	1,242	1.13	6,000	6,878	
20-Apr-13	9:00	1,056	0.73	4,100	0	1,244	1.18	6,000	6,970	
20-Apr-13	10:00	1,104	0.77	4,146	0	1,268	1.15	6,000	7,067	
20-Apr-13	11:00	1,080	0.75	4,191	0	1,271	1.18	6,000	7,161	
20-Apr-13	12:00	1,080	0.75	4,236	0	1,273	1.18	6,000	7,256	Took Sample #12: Graded 5g
20-Apr-13	13:00	1,104	0.77	4,282	0	1,279	1.16	6,000	7,352	
20-Apr-13	14:00	1,056	0.73	4,326	0	1,276	1.21	6,000	7,444	
20-Apr-13	15:00	1,080	0.75	4,371	0	1,279	1.18	6,000	7,539	
20-Apr-13	16:00	1,056	0.73	4,415	0	1,274	1.21	6,000	7,631	Took Sample #13: Graded 6g
20-Apr-13	17:00	1,080	0.75	4,460	0	1,279	1.18	6,000	7,726	End Stage # 4.
20-Apr-13	17:00	1,080	0.75	4,460	0	1,279	1.18	8,000	7,726	Begin Stage #5: 8,000 PPM with Champion K-31w
20-Apr-13	18:00	1,080	0.75	4,505	0	1,271	1.18	8,000	7,851	
20-Apr-13	19:00	1,104	0.77	4,551	0	1,313	1.19	8,000	7,980	Took Sample #14: Graded 8g
20-Apr-13	20:00	1,080	0.75	4,596	0	1,315	1.22	8,000	8,106	
20-Apr-13	21:00	1,056	0.73	4,640	0	1,304	1.23	8,000	8,229	
20-Apr-13	22:00	1,080	0.75	4,685	0	1,270	1.18	8,000	8,355	
20-Apr-13	23:00	1,080	0.75	4,730	0	1,306	1.21	8,000	8,481	
21-Apr-13	0:00	1,080	0.75	4,775	0	1,306	1.21	8,000	8,607	Took Sample #15: Graded 8g
21-Apr-13	0:34	1,144	0.79	4,802	0	1,314	1.15	8,000	8,682	Stop Treatment, Replaced Secondary Charge Pump.
21-Apr-13	1:00	0	0.00	4,802	0	954	0.00	8,000	8,682	
21-Apr-13	1:49	0	0.00	4,802	0	933	0.00	8,000	8,682	Resume Treatment: Stage #5: 8,000 PPM with Champion K-31w
21-Apr-13	2:00	1,047	0.73	4,810	0	1,259	1.20	8,000	8,705	
21-Apr-13	3:00	1,080	0.75	4,855	0	1,358	1.26	8,000	8,830	
21-Apr-13	4:00	1,080	0.75	4,900	0	1,348	1.25	8,000	8,956	
21-Apr-13	5:00	1,080	0.75	4,945	0	1,348	1.25	8,000	9,082	
21-Apr-13	6:00	1,080	0.75	4,990	0	1,352	1.25	8,000	9,208	
21-Apr-13	7:00	1,080	0.75	5,035	0	1,351	1.25	8,000	9,334	
21-Apr-13	8:00	1,104	0.77	5,081	0	1,357	1.23	8,000	9,463	
21-Apr-13	9:00	1,080	0.75	5,126	0	1,359	1.26	8,000	9,588	
21-Apr-13	10:00	1,104	0.77	5,172	0	1,358	1.23	8,000	9,717	
21-Apr-13	11:00	1,056	0.73	5,216	0	1,370	1.30	8,000	9,840	
21-Apr-13	12:00	1,080	0.75	5,261	0	1,372	1.27	8,000	9,966	Took Sample #16: Graded 8g
21-Apr-13	13:00	1,080	0.75	5,306	0	1,376	1.27	8,000	10,092	
21-Apr-13	14:00	1,104	0.77	5,352	0	1,378	1.25	8,000	10,221	
21-Apr-13	15:00	1,080	0.75	5,397	0	1,337	1.24	8,000	10,347	
21-Apr-13	16:00	1,080	0.75	5,442	0	1,382	1.28	8,000	10,472	



DATE	TIME	INJECTION RATE		CUM. INJ BBLs	WHP PSI	BHP PSI	HALL SLOPE	Polymer PPM	POLYMER LBS: Estimate	COMMENTS
		BPD	BPM							
21-Apr-13	17:00	1,080	0.75	5,487	0	1,388	1.29	8,000	10,598	
21-Apr-13	18:00	1,080	0.75	5,532	0	1,394	1.29	8,000	10,724	
21-Apr-13	19:00	1,080	0.75	5,577	0	1,398	1.29	8,000	10,850	
21-Apr-13	20:00	1,056	0.73	5,621	0	1,404	1.33	8,000	10,973	
21-Apr-13	21:00	1,080	0.75	5,666	0	1,410	1.31	8,000	11,099	Took Sample #17: Graded 8g
21-Apr-13	21:57	1,112	0.77	5,710	0	1,415	1.27	8,000	11,222	End Stage #5
21-Apr-13	21:57	1,112	0.77	5,710	0	1,415	1.27	10,000	11,222	Begin Stage #6: 10,000 PPM with Champion K-31w
21-Apr-13	22:00	960	0.67	5,712	0	1,415	1.47	10,000	11,229	
21-Apr-13	23:00	1,056	0.73	5,756	0	1,427	1.35	10,000	11,383	
22-Apr-13	0:00	1,080	0.75	5,801	0	1,432	1.33	10,000	11,540	Took Sample #18: Graded 9e
22-Apr-13	1:00	1,128	0.78	5,848	0	1,435	1.27	10,000	11,705	
22-Apr-13	2:00	1,080	0.75	5,893	0	1,440	1.33	10,000	11,862	
22-Apr-13	3:00	1,080	0.75	5,938	0	1,445	1.34	10,000	12,019	
22-Apr-13	4:00	1,104	0.77	5,984	0	1,467	1.33	10,000	12,180	
22-Apr-13	5:00	1,080	0.75	6,029	0	1,474	1.36	10,000	12,337	
22-Apr-13	6:00	1,080	0.75	6,074	0	1,479	1.37	10,000	12,495	
22-Apr-13	7:00	1,104	0.77	6,120	0	1,473	1.33	10,000	12,656	
22-Apr-13	8:00	1,056	0.73	6,164	0	1,488	1.41	10,000	12,809	Took Sample #19: Graded 9e
22-Apr-13	9:00	1,104	0.77	6,210	0	1,483	1.34	10,000	12,970	End Stage #6
22-Apr-13	9:00	1,104	0.77	6,210	0	1,483	1.34	0	12,970	Begin Stage #7: Water Flush with Champion K-31w and RU189
22-Apr-13	10:00	1,104	0.77	6,256	0	1,343	1.22	0	12,970	
22-Apr-13	10:06	960	0.67	6,260	0	1,348	1.40	0	12,970	End Stage #7. Treatment Completed

