OCD-ARTESIA

DEC 1 1 2008

Form 3160-5 (April 2004)



## UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

Expires: March 31, 2007
5. Lease Serial No.
NMLC 0639140

Do not use th	NOTICES AND REF is form for proposals t ell. Use Form 3160-3 (A	nter an	NMLC 0639140  6. If Indian, Allottee or Tribe Name	
SUBMIT IN TRI	PLICATE- Other instr	ructions on revers	se side.	7. If Unit or CA/Agreement, Name and/or No
1 Type of Well Oil Well 2 Name of Operator BOPCO, L. F	Gas Well Other	· · · · · · · · · · · · · · · · · · ·		8. Well Name and No. Big Eddy Unit #190
Ba Address P. O. Box 2760 Midland, TX 7		3b Phone No (include 432-683-2277	area code)	<ul> <li>9. API Well No</li> <li>30-015-36290</li> <li>10 Field and Pool, or Exploratory Area</li> </ul>
4. Location of Well <i>(Footage, Sec.)</i> 990' FNL, 860' FWL, 32.41202	•	J, Sec 9, T22S, R28E		Indian Flats SW (Morrow)  11. County or Parish, State  Eddy County, NM
12. CHECK AF	PPROPRIATE BOX(ES) TO	INDICATE NATUR	E OF NOTICE, RI	EPORT, OR OTHER DATA
TYPE OF SUBMISSION		TYP	E OF ACTION	
Notice of Intent Subsequent Report Final Abandonment Notice	Acidize Alter Casing Casing Repair Change Plans Convert to Injection	Deepen Fracture Treat New Construction Plug and Abandon Plug Back	Production (State Reclamation Recomplete Temporarily Ab.	Well Integrity Other.

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 shall 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 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection )

With consideration given to offset geological data, BOPCO, L.P. respectfully requests to alter the setting depth of the 9-5/8" intermediate casing string. The revised casing setting point will be approximately 6,224', or 60' below the projected base of the Avalon Sand into the Bone Spring Lime. The Avalon Sand will be cased off to allow for a higher kick tolerance while drilling the Atoka formation. BOPCO, L.P.'s offset wells Big Eddy Unit #158 (Sec. 4, T22S, R28E) and Big Eddy Unit #159 (Sec. 9, T22S, R28E) both encountered the Avalon Sand and respectively set casing at 6,175' and 6,162' RKB.

In addition, with consideration given to the estimated fracture pressure of the Bone Spring formation below the Avalon Sand, BOPCO, L.P. respectfully requests permission to forego the pressure integrity test of the intermediate casing shoe as specified within the approved APD Conditions of Approval - Drilling. Historic well data from fracture stimulations within the Big Eddy Unit (see attached Big Eddy Unit #114 post frac. report) prove a fracture gradient of the Bone Spring at 0.62 psi/ft, or an equivalent mud weight of 11.9 ppg at 6,224'. The recently drilled offset well. Big Eddy Unit #213 (Sec. 5, T22S, R28E) successfully tested the intermediate casing shoe to an 11.4 ppg equivalent at a depth of 6,059' with no leak off. The maximum anticipated mud weight for the above captioned well is 11.5 ppg.

The well is currently drilling at a depth of 2,500'. Should problems develop during the cementing of the 9-5/8" intermediate casing that would jeopardize the cement quality at the casing shoe, BOPCO, L.P. will perform the integrity test.

SEE ATTACHED FOR CONDITIONS OF APPROVAL Thereby certify that the foregoing is true and correct Name (Printed/Typed) Stephen M. Martinez Title Drilling Engineer Signature Date December 3, 2008 THIS SPACE FOR FEDERAL OR STATE OFFICE US 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 Office which would entitle the applicant to conduct operations thereon W. INGRAM 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 ap是可见如此更为是一个人,我们就是一个一个人的,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个一个一个一个一个,我们就是一个一个一个一个一个一

Job No: 493910278

# CHI Operating, Inc Big Eddy Unit #114

API # 30-015-26263-0001 QUAHADA RIDGE Field

Eddy County, New Mexico

Job Performed on: 10/17/2008

Post Frac Report

Report Prepared for: Gary Womack CHI Operating, Inc



Service Point: Artesia, NM. District

Main Number: (575) 746-3140 Main Fax Number: (575) 746-2293 Report Prepared by Ivan E Valenzuela Field Engineer

Bus. Phone: (575) 746-3140 Mobile: (575) 513-1098

e-mail: Ivan Valenzuela@bjservices.com



# CHI Operating, Inc. **BIG EDDY UNIT #114**

API# 30-015-26263-0001 QUAHADA RIDGE Field 21H-21S-29E Eddy County, New Mexico October 15, 2008

# **Fracturing Proposal**

Prepared for: Gary Womack Prepared by: DANNY L RATLIFF Region Engineer



POWERPRO · POWERTRAX · POWERLINK

## Service Point:

Artesia

Bus Phone: (505) 746-3140 Fax:

(505) 746-2293

## Service Representatives:

Steve Matlock District Sales Supervisor Hobbs, New Mexico

Operator Name: CHI Operating, Inc.
Well Name: BIG EDDY UNIT #114

Job Description: Frac Bone Springs @ 7,528' -7,639'

Date:

October 15, 2008



Proposal No: 574350079B

# **JOB AT A GLANCE**

Surface Treating Pressure (max) 5,918 psi

Total Rate (max) 32.00 bpm

Estimated Pump Time (HH:MM) 02:01

Frac Fluid 160,768 gals 10# Brine

Proppants 4,000 lb Super LC, 20/40

22,000 lb LiteProp 125, 14/30

1,000 lb Sand, Sacked, 20/40

CUSTOMER TO SUPPLY ALL TANKS AND KCL WATER.

JOB REQUIRES 9 FRAC TANKS WITH 480 BBLS 10# BRINE IN EACH TANK (THIS INCLUDES 50 BBL BOTTTOMS).

Operator Name: CHI Operating, Inc.

BIG EDDY UNIT #114

Well Name:

Job Description: Frac Bone Springs @ 7,528' -7,639'

Date:

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Proposal No: 574350079B

# **WELL DATA**

## **RESERVOIR DATA**

**Formation Bone Springs Depth to Middle Perforation** 7,584 ft Reservoir Pressure 2,000 psi **Fracture Gradient** 0.62 psi/ft **Bottom Hole Fracture Pressure** 4,702 psi 127 ° F **Bottom Hole Static Temperature** 

#### PERFORATED INTERVAL

DEP	ΓH(ft)	Perf Diameter	Total Perfs
MEASURED	TRUE VERTICAL	الله (in) الله الله الله الله الله الله الله الل	the state of the state of
7,528 - 7,639	7,528 - 7,639	0.40	22

**Total Number of Perforations** 

22

**Total Feet Perforated** 

111 ft

# **TUBULAR GEOMETRY**

BULAR GEOMETRY				<u>Top</u>	<u>Bottom</u>
Casing	5 1/2" O.D.	(4.892" .I.D)	17 #	0	7,734
Tubing	3 1/2" O.D.	(2.992" .l.D)	9.3 #	0	7,428

**End of Tubing** 

7,428 ft

Pump Via

Tubing

Page 2

Operator Name: CHI Operating, Inc. Well Name:

**BIG EDDY UNIT #114** 

Job Description: Frac Bone Springs @ 7,528' -7,639'

Date:

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## **FLUID SPECIFICATIONS**

Frac Fluid: 10# Brine

160,768 Gallons

Components:

Superset-W, 55 gal drum 5 gpt Resin Activator

(RUN DURING RESIN COATED SAND)

FRW-14 (Tote) Friction Reducer 2 gpt

1 gpt Clay Master-5C Clay Stabilization Product

NE-940 1 gpt Non-Emulsifier Gel Breaker **GBW-18** 1 ppt

Xcide-207 **Bacteria Control Product** 0.34 ppt

**Proppants** 4,000 lb

100% Super LC, 20/40

22,000 lb 100% LiteProp 125, 14/30

1,000 lb 100% Sand, Sacked, 20/40

RUN 5 GPT SUPERSET-W IN THE RESIN COATED SAND STAGE.

Operator Name: CHI Operating, Inc.
Well Name: BIG EDDY UNIT #114

Job Description: Frac Bone Springs @ 7,528' -7,639'

Date:

October 15, 2008



**Proposal No: 574350079B** 

## FRACTURE TREATMENT SCHEDULE

# **INPUT PARAMETERS**

TVD Depth (Mid Perforation)	7,584 ft
MD Depth (Mid Perforation)	7,584 ft
Perforations Number	22
Perforation Diameter	0.400 in
Bottom Hole Frac Pressure	4,702 psi
Bottom Hole Static Temperature	127 ° F

				<u>Top</u>	<u>Bottom</u>
Casing	5 1/2" O.D.	(4.892" I.D.)	17 #	0	7,734
Tubing	3 1/2" O.D.	(2.992" I.D.)	9.3 #	0	7,428

# CALCULATED RATES, PRESSURES & HHP REQUIREMENTS

	<u>Maximum</u>	<u>Minimum</u>	<u>Average</u>
Surface Treating Pressure (psi)	5,919	5,245	5,336
Slurry Rate (bpm)	32.0	32.0	32.0
Proppant Rate (lbs/min)	2,462	134	290
Slurry Hydraulic Horsepower	4,642	4,114	4,186

# **PROCEDURE**

,	Fluid	e , 14		Proppant		
stage	Type	Volume (gal)	Conc. (ppa)	, - <b>)  </b> -,-	Stage (lbs)	Cum (lbs)
1	10# Brine	35000		Pad		
2	10# Brine	4000	0.25	100%Sand, Sacked, 20/40	1000	1000
3	10# Brine	21000	0.10	100%LiteProp 125, 14/30	2100	3100
4	10# Brine	40000	0.15	100%LiteProp 125, 14/30	6000	9100
5	10# Brine	29000	0.20	100%LiteProp 125, 14/30	5800	14900
6	10# Brine	27000	0.30	100%LiteProp 125, 14/30	8100	23000
7	10# Brine	2000	2 00	100%Super LC, 20/40	4000	27000
8	10# Brine	2768		Flush		27000
Total		160768				27000

Operator Name: CHI Operating, Inc.
Well Name: BIG EDDY UNIT #114

Job Description: Frac Bone Springs @ 7,528' -7,639'

Date:

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Proposal No: 574350079B

# FRACTURE TREATMENT SCHEDULE

# TREATMENT SCHEDULE

	Surface		Rates	a, 27	Volume				Stage
	Treating	Slurry	Clean	Prop.	Slu	Slurry Fluid		ıid	Pump
stage	Pressure (psi)	(bpm)	Fluid (bpm)	Rate (lb/min)	Stage (bbls)	Cum. (bbls)	Stage (bbls)	Cum. (bbls)	Time hh:mm:ss
1	5244	32.0	32.0		833.3	833.3	833.3	833.3	00:26:02
2	5328	32.0	31.6	332.2	96.3	929.6	95.2	928.6	00:03:00
3	5303	32.0	31.7	133.1	504.8	1434.4	500.0	1428.6	00:15:46
4	5332	32.0	31.5	198.7	966.1	2400.5	952.4	2381.0	00:30:11
5	5361	32.0	31.4	263.7	703.7	3104.2	690.5	3071.4	00:21:59
6	5419	32.0	31.1	391.9	661.3	3765.6	642.9	3714.3	00:20:40
7	5918	32.0	29 3	2461.1	52.0	3817.6	47.6	3761.9	00:01:37
8	5244	32.0	32.0		65.9	3883.5	65.9	3827.8	00:02:03

Total Pump Time: 02:01:21



#### CONDITIONS

BJ Services' performance of services and sale of materials is expressly conditioned upon the applicability of the Terms and Conditions contained in the current BJ Services Price Book. The Terms and Conditions include, among other things, an indemnity in favor of BJ Services from Customer for damage to the well bore, reservoir damage, loss of the hole, blowouts and loss of control of the well, even if caused by the negligence or other fault of BJ Services. The Terms and Conditions also limit the warranties provided by the BJ Services and the remedies to which Customer may be entitled in the event of a breach of warranty by BJ Services. For these reasons, we strongly recommend that you carefully review a copy of the Terms and Conditions If you do not have a copy of the BJ Services Price Book, you can view the Terms and Conditions on BJ Services Web Site, www.bjservices.com. By requesting that BJ Services perform the services described herein, Customer acknowledges that such Terms and Conditions are applicable to the services. Further, by requesting the services, Customer warrants that its representative on the well location or other service site will be fully authorized to acknowledge such Terms and Conditions by executing a Field Receipt or other document presented by BJ Services containing such Terms and Conditions.

In the event that Customer and BJ Services have executed a Master Services Agreement covering the work to be performed, such Master Services Agreement shall govern in place of the Terms and Conditions. If you are interested in entering into Master Services Agreement with BJ Services, please contact us through the "Go BJ" button on the BJ Services Web Site.

Operator: CHI Operating, Inc.
Well Name: BIG EDDY UNIT #114
Date: October 15, 2008



Proposal No: 574350079B

## PRODUCT DESCRIPTIONS

### Clay Master-5C

A concentrated low molecular weight polyamine used in water, brine or acids to protect the formation against damage due to clay swelling, sloughing and migration.

#### FRW-14 (Tote)

A high molecular weight friction reducer used in water-based fracturing, acidizing or brine applications.

#### **GBW-18**

An oxidative breaker formulated to degrade polymers used in fracturing, workover and remedial treatments. It is used in moderate temperatures. An additional catalyst allows its use at low temperatures.

#### LiteProp 125, 14/30

Ultra-lightweight proppant for application at low to moderate reservoir temperatures and closure stresses. The product has a nominal specific gravity of 1.25 vs 2.65 for sands. The low bulk density yields substantially greater

proppant pack volume per unit of mass placed than sands, yielding excellent fracture conductivities. The low specific gravity significantly enhances proppant transport and placement, yielding improved effective fracture

#### NE-940

A nonionic non-emulsifier with excellent load recovery capabilities in some reservoirs.

#### Sand, Sacked, 20/40

An excellent quality, well rounded quartz sand, commonly known as "Ottawa" Color variation, which has been construed as less than desirable, is common for these sands and has no apparent impact on their strength. It is used in low to moderate closure pressure situations.

## Super LC, 20/40

Resin Coated Sand {Curable:Standard}. An economical curable resin coated Ottawa type Sand for use in reservoirs with moderate temperatures and moderate closure pressure situations. Curing of the resin is accomplished under reservoir conditions creating a continuous network of resin and proppant grains. Registered Trademark of Santrol.

#### Superset-W, 55 gal drum

A resin catalyst used with curable resin coated proppants to speed the curing rate in low temperature applications. Registered Trademark of Santrol.

## Xcide-207

A non-ionic isothiasolin bacteriacide in a convenient, solid granular form. It provides broad spectrum control of slime forming and sulfate-reducing bacteria in oilfield waters.

#### BJ Services Conditions of Contract Effective 03/2003

Customer and BJ Services (as both are defined herein) agree that the Services (as defined below) to be performed are subject to and in consideration of the following terms and conditions

#### 1 DEFINITIONS

BJ SERVICES The term "BJ Services" shall include BJ Services Company, U.S.A., its affiliates and subsidiary companies

CUSTOMER. The term "Customer" shall include parents, directors, officers, employees, agents, subsidiaries, joint venturers, working interest partners and partners of the Customer requesting the Services of BJ Services FIELD RECEIPT: The term "Field Receipt" shall include any one or group of documents that BJ Services requests that the Customer sign at the well or service site prior to or at the time the Services are rendered

SERVICES The term "Services" shall include any products, supplies, equipment, materials, personnel, technical advice or recommendations provided by BJ Services to Customer

- WELL CONDITION/ACCESS Customer warrants that the well and/or service site shall be in proper condition to receive and accommodate the Services Customer also warrants that BJ Services' personnel and equipment will be able to safely access the well and/or service site and that any special equipment or road improvements required for such access shall be the responsibility of Customer If the well location where BJ Services is to provide the Services is offshore, Customer shall furnish all required transportation for both equipment, supplies and personnel of BJ Services Customer shall be solely responsible for obtaining all necessary permits or licenses for the performance of the Services.
- 3 INDEPENDENT CONTRACTOR BJ Services is and shall be an independent contractor with respect to the performance of the Services and neither BJ Services nor anyone employed by BJ Services shall be the agent, representative, employee or servant of Customer in the performance of the Services or any part thereof
- PRICE Customer agrees to pay BJ Services for Services in accordance with BJ Services' current price list. In the event that BJ Services has agreed to charge Customer other than as set forth in such price list, the charges agreed upon by Customer and BJ Services shall be those set forth in the Field Receipt and the agreement of Customer thereto shall be conclusively established by its execution of such Field Receipt. All payments shall be made in United States Dollars.
- TERMS Cash in advance unless BJ Services has approved credit prior to the sale. Credit terms for approved accounts are total invoice amount due on or before the 30th day from the date of the invoice at the address set forth therein. Past due accounts shall pay interest on the balance due at the rate of 1½% per month or the maximum allowable under applicable state law if such law limits interest to a lesser amount. In the event it is necessary to employ a third party to effect collection of said account, Customer agrees to pay all fees of such third party directly or indirectly incurred for such collection. BJ Services will use its best efforts to provide the Services within the time specified, but does not covenant to do so and shall not be liable for any loss or damage caused by delay in delivery irrespective of the cause thereof.
- 6 TAXES Customer agrees to pay all taxes based on or measured by the charges set forth on the face of the Field Receipt
- AMENDMENTS AND MODIFICATIONS No field employee of BJ Services shall be empowered to alter the terms and conditions of this contract. Any attempt by either party to vary any of the terms hereof, through a work order, purchase order, inspection report or other document, shall be deemed immaterial and shall be void, unless this provision is expressly referenced and specifically waived. By requesting the Services, Customer agrees to all the terms and conditions contained herein, which shall constitute the entire agreement between the parties, and BJ SERVICES willingness to perform the Services is expressly limited to the terms and conditions contained herein. In the event that BJ SERVICES and Customer have entered into a master service agreement or master work contract applicable to the Services performed hereunder, then any term or condition herein which conflicts with the provisions of such master agreement shall be deemed invalid. BJ SERVICES hereby objects to any term of any purchase order, delivery ticket, receipt or other document provided by Customer that varies from or conflicts with the terms and conditions herein.
- 8 SEVERABILITY It is understood and agreed by Customer and BJ SERVICES that any term or condition hereof prohibited by law shall be deemed invalid to the extent of such prohibition and shall be modified to the extent

necessary to conform to such rule of law Any term or condition hereof not deemed invalid and modified pursuant to the preceding sentence shall remain in full force and effect without regard to such invalidity and modification of any other term or condition.

- LIMITED WARRANTY. BJ SERVICES WARRANTS ONLY TITLE TO PRODUCTS, SUPPLIES AND MATERIALS FURNISHED AND THAT THE SAME WILL CONFORM TO THE DESCRIPTION SPECIFIED IN WRITING AND ARE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS. THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED OF MERCHANTABILITY, FITNESS OR OTHERWISE WHICH EXTEND BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE BJ SERVICES' SOLE LIABILITY AND CUSTOMERS EXCLUSIVE REMEDY IN ANY CAUSE OF ACTION (WHETHER IN CONTRACT, TORT, BREACH OF WARRANTY OR OTHERWISE) ARISING OUT OF THE SERVICES IS EXPRESSLY LIMITED TO THE REPLACEMENT OF ANY DEFECTIVE PRODUCTS, SUPPLIES OR MATERIALS OR, AT BJ SERVICES' OPTION, TO THE ALLOWANCE TO THE CUSTOMER OF CREDIT FOR THE COST OF SUCH ITEMS. CUSTOMER EXPRESSLY WAIVES ANY RIGHTS OF REDHIBITION TO WHICH IT MAY BE ENTITLED. BJ SERVICES MAKES NO WARRANTIES FOR ANY EQUIPMENT, MATERIALS OR PRODUCTS MANUFACTURED BY THIRD PARTIES, BUT WILL PASS ON TO CUSTOMER ALL WARRANTIES OF THE MANUFACTURERS OF SUCH EQUIPMENT, MATERIALS OR PRODUCTS BJ SERVICES IS UNABLE TO, AND DOES NOT, GUARANTEE THE ACCURACY OF ANY JOB RECOMMENDATION, RESEARCH ANALYSIS, DATA INTERPRETATION, OR OTHER INFORMATION FURNISHED TO CUSTOMER BY BJ SERVICES IN VIEW OF THE UNCERTAINTY OF WELL CONDITIONS AND THE RELIANCE BY BJ SERVICES AND CUSTOMER UPON INFORMATION AND SERVICES FURNISHED BY THIRD PARTIES. THEREFORE, NO WARRANTY EXPRESS OR IMPLIED IS GIVEN CONCERNING THE EFFECTIVENESS OF THE SERVICES PROVIDED BY BJ SERVICES OR THE RESULTS OF ANY TREATMENT OR SERVICE, CUSTOMER ACCEPTS FULL RESPONSIBILITY FOR RETURNING THE WELL DESCRIBED ON THE FACE OF THE APPLICABLE FIELD RECEIPT TO PRODUCTION. THE WARRANTY AND THE REMEDIES STATED IN THIS SECTION SHALL APPLY ONLY IF CUSTOMER NOTIFIES BJ SERVICES OF A DEFECT, AS DESCRIBED IN THIS SECTION, WITHIN SEVEN (7) DAYS FROM THE COMPLETION OF THE SERVICES.
- 10. FORCE MAJEURE Any delays or failure by BJ Services in the performance of the Services shall be excused if and to the extent caused by war, preparations of war, fire, flood, strike or other labor unrest, not, act of terrorism, embargo, arrest, seizure, acts of God, or any other cause beyond the reasonable control of BJ Services
- 11. CHEMICAL HANDLING/DISPOSAL Customer agrees that all chemicals and fluids used in performance of the Services, including any and all liabilities related thereto shall be the responsibility of Customer and shall be disposed of by the Customer in accordance with all applicable federal, state and local laws and regulations Further, Customer agrees that for any waste created as part of the Services, Customer will be considered the "generator" for purposes of any such laws. The products provided by BJ Services may initiate compliance requirements with the Superfund Amendments and Reauthorization Act of 1986 (SARA), which includes Title III, the Emergency Planning and Community Right-to-Know Act (EPCRA). There also may be state and local environmental laws applicable to the transportation, storage and handling of such products. It is the customer's responsibility for determining the applicability of such laws and for complying with such.

  BJ Services agrees to provide all necessary and relevant information (with regard to the composition of products purchased) for compliance with EPCRA when requested by customer in writing.

#### 12. INDEMNITY AND INSURANCE OBLIGATIONS.

(A) NOTWITHSTANDING ANY PROVISION HEREIN TO THE CONTRARY, CUSTOMER SHALL PROTECT, DEFEND, INDEMNIFY, HOLD HARMLESS AND RELEASE BJ SERVICES, ITS PARENT, SUBSIDIARY AND AFFILIATED COMPANIES AND CONTRACTORS OR SUBCONTRACTORS HIRED AND/OR ENGAGED BY BJ SERVICES AND THEIR RESPECTIVE OFFICERS, DIRECTORS AND EMPLOYEES (HEREAFTER THE "BJ SERVICES GROUP") FROM AND AGAINST ALL CLAIMS, DEMANDS AND CAUSES OF ACTION OF EVERY KIND AND CHARACTER ARISING OUT OF OR RESULTING FROM WORK THAT IS THE SUBJECT MATTER OF THIS AGREEMENT ON ACCOUNT OF: 1) BODILY INJURY, ILLNESS OR DEATH TO CUSTOMER'S EMPLOYEES AND/OR THE EMPLOYEES OF ANY CONTRACTORS OR SUBCONTRACTORS HIRED AND/OR ENGAGED BY CUSTOMER; AND/OR 2) DAMAGE TO OR LOSS OF OR LOSS OF USE OF PROPERTY OWNED, OPERATED, LEASED, CONTROLLED OR PROVIDED BY CUSTOMER AND/OR ANY CONTRACTOR OR SUBCONTRACTOR HIRED AND/OR ENGAGED BY CUSTOMER, REGARDLESS, IN EACH CASE, IF THE CLAIM, DEMAND OR CAUSE OF ACTION HAS BEEN CAUSED BY THE SOLE, JOINT AND/OR COMPARATIVE NEGLIGENCE, STRICT LIABILITY, PRODUCTS LIABILITY, BREACHES OF EXPRESS OR IMPLIED WARRANTIES. THE UNSEAWORTHINESS OF ANY VESSEL THE

CONTRACTUAL LIABILITY OF ANY MEMBER OF THE BJ SERVICES GROUP OR OTHER FAULT OF ANY PARTY SPECIFICALLY INCLUDING BUT NOT LIMITED TO THE BJ SERVICES GROUP.

- (B) NOTWITHSTANDING ANY PROVISION HEREIN TO THE CONTRARY, CUSTOMER AGREES TO PROTECT, DEFEND, INDEMNIFY HOLD HARMLESS AND RELEASE THE BJ SERVICES GROUP, FROM AND AGAINST ALL CLAIMS, DEMANDS, AND CAUSES OF ACTION OF EVERY KIND AND CHARACTER ARISING OUT OF OR RESULTING FROM THE WORK THAT IS THE SUBJECT MATTER OF THIS AGREEMENT ON ACCOUNT OF BODILY INJURY, ILLNESS, OR DEATH OF PERSONS WHO ARE THIRD PARTIES AND/OR DAMAGE TO OR LOSS OF PROPERTY OWNED. OPERATED, LEASED, CONTROLLED, OR PROVIDED BY THIRD PARTIES, REGARDLESS, IN EACH CASE, IF THE CLAIM, DEMAND OR CAUSE OF ACTION HAS BEEN CAUSED BY THE SOLE, JOINT AND/OR COMPARATIVE NEGLIGENCE, STRICT LIABILITY, PRODUCTS LIABILITY, BREACHES OF EXPRESS OR IMPLIED WARRANTIES, THE UNSEAWORTHINESS OF ANY VESSEL, THE CONTRACTUAL LIABILITY OF ANY MEMBER OF THE BJ SERVICES GROUP OR OTHER FAULT OF ANY PARTY SPECIFICALLY INCLUDING BUT NOT LIMITED TO THE BI SERVICES GROUP. AS USED IN THIS PARAGRAPH, THIRD PARTY SHALL MEAN ANY PERSON OR ENTITY OTHER THAN A MEMBER OF THE BJ SERVICES GROUP, CUSTOMER OR CUSTOMER'S OTHER CONTRACTORS OR THEIR SUBCONTRACTORS INCLUDING CUSTOMER'S EMPLOYEES OR THE EMPLOYEES OF CUSTOMER'S OTHER CONTRACTORS OR SUBCONTRACTORS.
- (C) NOTWITHSTANDING ANY PROVISION HEREIN TO THE CONTRARY, CUSTOMER AGREES TO PROTECT, DEFEND, INDEMNIFY HOLD HARMLESS AND RELEASE THE BJ SERVICES GROUP FROM AND AGAINST ALL CLAIMS, DEMANDS, AND CAUSES OF ACTION OF EVERY KIND AND CHARACTER ARISING OUT OF OR RESULTING FROM THE SERVICES ON ACCOUNT OF: 1) PROPERTY DAMAGE OR LOSS, OR LOSS OF USE OF PROPERTY THAT IS CAUSED BY OR RESULTS FROM POLLUTION, AS WELL AS ALL COSTS OR EXPENSES OF CLEANUP AND CONTROL OF THE POLLUTION; (2) PROPERTY DAMAGE OR LOSS, OR LOSS OF USE OF PROPERTY THAT IS CAUSED BY OR RESULTS FROM RESERVOIR OR UNDERGROUND DAMAGE, AS WELL AS LOSS OF OIL, GAS, OTHER MINERAL SUBSTANCE, WATER OR THE WELL BORE ITSELF; 3) BODILY INJURY, ILLNESS, DEATH OR PROPERTY DAMAGE OR LOSS, OR LOSS OF USE OF PROPERTY THAT IS CAUSED BY OR RESULTS FROM THE PERFORMANCE OF SERVICES TO CONTROL A WILD WELL TO PROTECT THE SAFETY OF THE GENERAL PUBLIC OR TO PREVENT THE DEPLETION OF VITAL RESOURCES. (4) COST OF CONTROL OF A WILD WELL. UNDERGROUND OR ABOVE THE SURFACE; AND/OR (5) LOSS OF OR DAMAGE TO BJ SERVICES' IN-HOLE EQUIPMENT: REGARDLESS IF ANY OF THE FOREGOING HAS BEEN CAUSED BY THE SOLE JOINT AND/OR COMPARATIVE NEGLIGENCE, STRICT LIABILITY, PRODUCTS LIABILITY. BREACHES OF EXPRESS OR IMPLIED WARRANTIES, THE UNSEAWORTHINESS OF ANY VESSEL, THE CONTRACTUAL LIABILITY OF ANY MEMBER OF THE BJ SERVICES GROUP OR OTHER FAULT OF ANY PARTY SPECIFICALLY INCLUDING BUT NOT LIMITED TO THE BJ SERVICES GROUP CUSTOMER SHALL AT ITS OWN EXPENSE AND RISK ATTEMPT TO RECOVER BJ SERVICES' LOST OR DAMAGED IN-HOLE EQUIPMENT. THE VALUE OF ANY SUCH UNRECOVERABLE, LOST OR DAMAGED EQUIPMENT SHALL BE REIMBURSED BY CUSTOMER AT THE THEN CURRENT REPLACEMENT COST.
- (D) IN SUPPORT OF THE LIABILITY, DEFENSE AND INDEMNITY PROVISIONS OF SECTIONS 12(A) AND 12(B) CUSTOMER SHALL FURNISH COMMERCIAL GENERAL LIABILITY INSURANCE, ALL-RISKS INSURANCE OR QUALIFIED SELF-INSURANCE IN THE AMOUNT OF \$500,000, FOR EACH OCCURRENCE.
- (E) IN SUPPORT OF ITS OTHER OBLIGATIONS HEREUNDER, CUSTOMER SHALL MAINTAIN COMMERCIAL GENERAL LIABILITY INSURANCE, AUTOMOBILE LIABILITY INSURANCE, ALLRISKS COVERAGE, PROTECTION & INDEMNITY INSURANCE AND HULL INSURANCE, AVIATION LIABILITY INSURANCE AND UMBRELLA OR EXCESS LIABILITY INSURANCE IN THE MINIMUM AMOUNT OF \$1,000,000.
- (F) BJ SERVICES SHALL BE NAMED IN THE FOREGOING INSURANCE POLICIES AS A BLANKET ADDITIONAL INSURED FOR ALL CLAIMS, DEMANDS, AND CAUSES OF ACTION OF EVERY KIND AND CHARACTER ARISING OUT OF OR RESULTING FROM THE SERVICES. BJ SERVICES STATUS AS AN ADDITIONAL INSURED SHALL NOT BE RESTRICTED TO CUSTOMER'S VICARIOUS LIABILITY FOR BJ SERVICES OR ANY OTHER SIMILAR RESTRICTION. THE OBLIGATION TO NAME BJ SERVICES AS AN ADDITIONAL INSURED SHALL BE SEPARATE AND INDEPENDENT FROM THE OBLIGATIONS SET FORTH ELSEWHERE IN THIS SECTION 12. BJ

SERVICES SHALL BE ENTITLED TO STATUS AS AN ADDITIONAL INSURED EVEN IF THE INDEMNITY PROVISIONS IN SECTION 12 ARE UNENFORCEABLE

- (G) THE POLICIES OF INSURANCE NOTED ABOVE SHALL BE ENDORSED TO WAIVE ALL RIGHTS OF SUBROGATION AGAINST THE BJ SERVICES GROUP FOR ALL CLAIMS, DEMANDS AND CAUSES OF ACTION OF EVERY KIND AND CHARACTER CAUSED BY OR RESULTING FROM THE WORK THAT IS THE SUBJECT MATTER OF THIS AGREEMENT. SUCH POLICIES SHALL BE ENDORSED TO PROVIDE THAT ALL INSURANCE SHALL BE PRIMARY AND NON-CONTRIBUTING WITH ANY OTHER INSURANCE MAINTAINED BY THE BJ SERVICES GROUP REGARDING ALL CLAIMS, DEMANDS AND CAUSES OF ACTION OF EVERY KIND AND CHARACTER CAUSED BY OR RESULTING FROM THE SERVICES.
- 13. CONFIDENTIAL INFORMATION Customer and BJ Services will use their best efforts to maintain the confidentiality of all records and proprietary information obtained by either party in the performance of the Services by BJ Services Such information will not be disclosed to any third parties without the prior consent of the other party. Notwithstanding the foregoing, BJ Services may use the information generated by the Services, including treatment and well performance data in the development of job recommendations and treatment programs for its other customers.

#### 14. WAIVER

(A) Neither BJ Services nor Customer will be liable to the other for, and BJ Services and Customer hereby agree to defend, indemnify and hold harmless the other with respect to, any special, incidental, indirect or consequential damages which either may suffer resulting from or arising out of the Services provided by BJ Services hereunder, including but not limited to, loss of profit, loss of production or revenue or business interruption losses, whether or not arising under an alleged breach of warranty or caused by the sole, joint and/or comparative negligence, strict liability or other fault of either party.

- (B) Customer represents that it is a business consumer purchasing products and services from BJ Services for commercial use, that it has experience in business matters that enable it to evaluate the merits and risks of the purchase of such products and services, and that it is not in a significantly disparate bargaining position. Customer waives the provisions of the Texas Deceptive Trade Practices Act (other than section 17), as from time to time amended.
- 15. GOVERNING LAW To the extent that the Services are performed offshore, this contract shall be governed by the General Maritime Laws of the United States Otherwise, this contract shall be governed by the law of the State of Texas, without regard to its conflict of laws rule
- 16. SURVIVAL. The terms and conditions contained herein shall survive completion of the Services

#### Additional Terms and Conditions applicable to BJ Chemical Services and BJ Completion Fluids

- A. Terms of Sale. Unless otherwise specified, all quotations and sales are FOB point of shipment. If special goods are ordered, such order is not subject to cancellation.
- B. Consigned Products. BJ Services may agree to make products available for use at Customer's facility or site on a consignment basis. In such event, the Customer shall be invoiced for the product upon use. Until such time, the products shall remain the property of BJ Services.
- C. Product Returns. At its discretion, BJ Services may accept product returns from Customer In such event, BJ Services may specify the condition of the products, the packaging, method of delivery and any value associated with such returned products

# STIMULATION TREATMENT REPORT



Date 17-0C Lease BIG ED Field QUAHA	DY UNIT #114	_ District_Ar	esia		Well Nam	93910278 ne_BIG EDDY		CHI Op	erating Ir	nc
County Eddy	DATTIBUL	State New	Mexico		Stage No		Well API	- API 300	1526263	30001
WELL DATA	Well Type:	NEW	Well CI	ass OI	L	Depth TD/F	PB. 7734	Forma	tion.	Bone Springs
Geometry Typ			Weight		ade Top	Bottom			tervals	
TUBULAR	CSG	5.5			l-80 0	7734	Тор	Bottom	SPF	Diameter
TUBULAR	TBG	3 5			-80 0	7428	7528	7639	1	.4
Packer Type U TREATMENT Fluid Type PAD TREATMENT FLUI TREATMENT FLUI	Fluid Descond	c Pump		Sals) Pr 4,658 Sa 5,970 Lit	rop. Descriptiond, Sacked, 20/eProp 125, 14/3	40 0	ne Pumped(Lbs) 1,000 10,032	Tubing Casing		2 3
Hole Loaded V Ball Sealers:	ment XXXXX  ith nothing 0 lr ials FRW-14, ACTIV	TT	reat Via Tub Stages Type	ing X Ca	oduction XX	ul. 🔲 Tubing	xxx	Open H Fluid to Pad Vo Treating Flush _ Overflus	lole Cap. Load lume g Fluid	0 0 825.2 1808.8 0
										2512 7
		/ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		PROC	EDURE SUM	MARY	S. K	,	<u> </u>	, , , , , , , , , , , , , , , , , , ,
Time AM/PM	Treating Pres		Surface BBLS. F	umped	Slurry Rate BPM		Com	ments		
	STP	Annulus	Stage	Total						
05.58 06 30	0	0	0	0		pre-rig up sat				
08:10	0	0	0	0		F W				
09.45	9023	0	0	0	0		pop off to 2100	OSI		
10.00	6023	1000	34 3	0	23	pad / had to s	shut down due to	leak		
10:11	6882	928	825.2	825 2						
10.36	6730	1004	96.4	921 6		.25# brown 2				
10:39	6235 7131	962 1021	505.4 966 9	1427 2393 9	33.7	.10# liteprop	125			
11 21	7040	955	239.8	2633.7	35	.20#				
11:31	8000	2019	239.8	2633.7			reenout			
11:36	1179	1997	239.8	2633 7		5				
11 41	1129	0	239 8	2633 7	0					
11 46	1107	0	239 8	2633.7	0	15				
Treating Press	ure	Injection	n Rates	Sh	ut In Pressu	es	Custo	omer Rep	).	Sonny Mann
Mınimum	6200	Treating	Fluid	35 ISI	DP	8000	BJ Re	ep.	CARSO	N V JONES
Maximum	8000	Flush	0	51	Vin.	1179	Job N	lumber		3910278
Average	7000	Average	35			1129		ID No.		
Operators Max				<del></del>	Min	1107		bution		
				Fir		In 15 Mi		DULIOI1		
80	000				ush Dens Ib /g		11			
					aon Della ID/Q	jal 10				

# **Load Sheet**



DISTRICT Artesia	WELL NAME BIG EDDY UNIT #114	
DISPATCH SHEET NO.		
CUSTOMER CHI Operating Inc.		JOB DATE OCT-17-2008
BRANCH BULK PLANT Artesia	FIELD RECEIPT NO 493910278	FIELD RECEIPT DATEOCT-17-2008

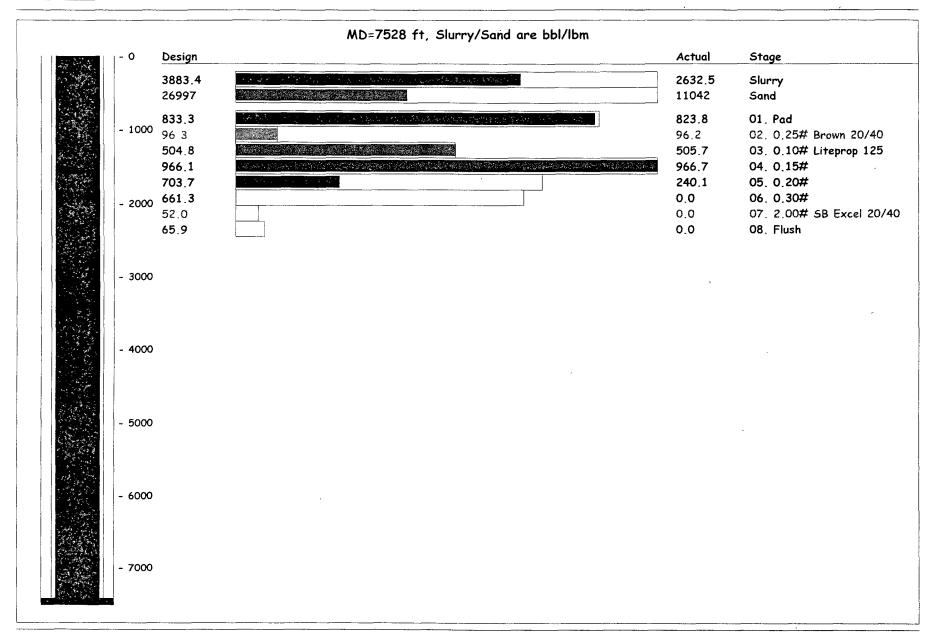
BRANCH BULK PLANT Artesia	FIELD RE	CEIPT NO 49	3910278	FIELD	RECEIPT D	ATEOCT-17-	2008
		Sec. 1	4 × 11.0	QUÂNTITY	3 m / W.	NET	VERIFIED
PRODUCT DESCRIPTION	NO.	ЙОМ	ORDERED	LOADED/ BLENDED	RETURNED		TO FIELD RECEIPT
Sand, Sacked, 20/40	100302	sacks	20				
NE-940	100472	gals	325				
Xcide-207	100486	lbs	55				
FRW-14 (Tote)	424227	gals	564				
GBW-18	488224	lbs	300				
Activator, 55 gal drum	499737	gals	209				
Superset-W, 55 gal drum	499739	gals	0				
Clay Master-5C Super LC, 20/40	499808	gals	305				
SB Excel 20/40	499871	lbs		·			
SB Excel 20/40 LiteProp 125, 14/30	499895 499918	lbs lbs	4,080 22,000				
	,						
			-				
COMMENTS:	1	1					
SSUED BY JOHN D MCDONAL	D				DA	TE OCT-16-2	008
RECEIVED TO LOCATION CARSON V JONES	SERVICE :	SUPERVISOR			DA	TE <u>OCT-17-2</u>	800
	JERVICE (				DA	TE	
APPROVAL	OPERATION	S SUPERVISOR					
SUSTOMER SIGNATURE							



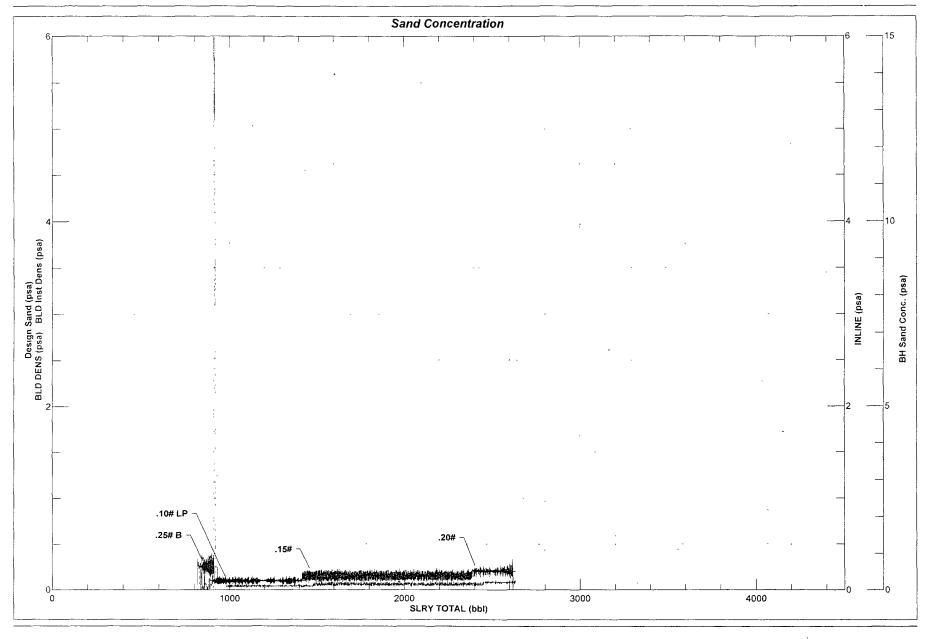
BJ Services JobMaster Program Version 3.20

Job Number: 493910278

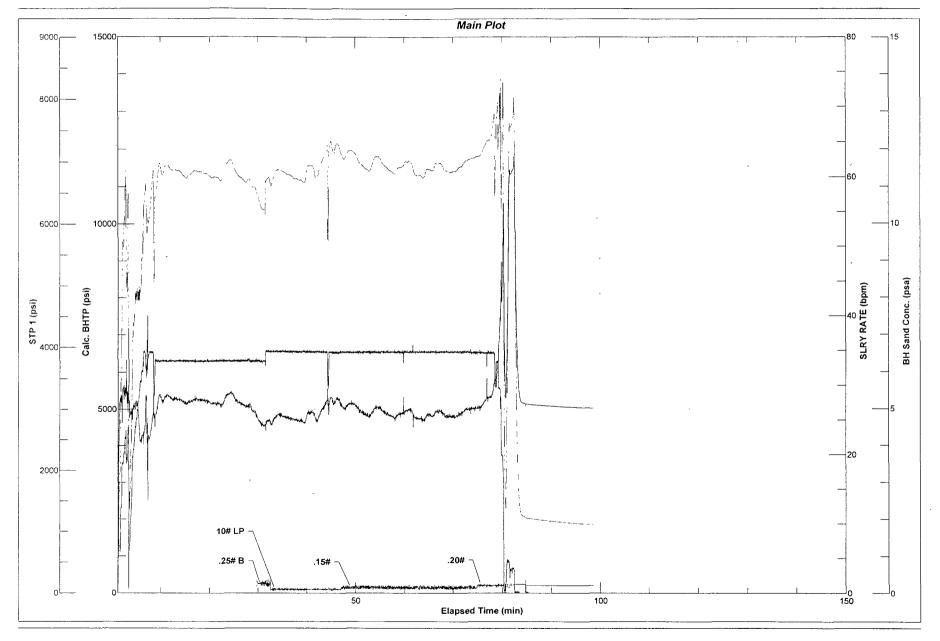
Customer: CHI Operating, Inc. Well Name: Big Eddy Unit #114



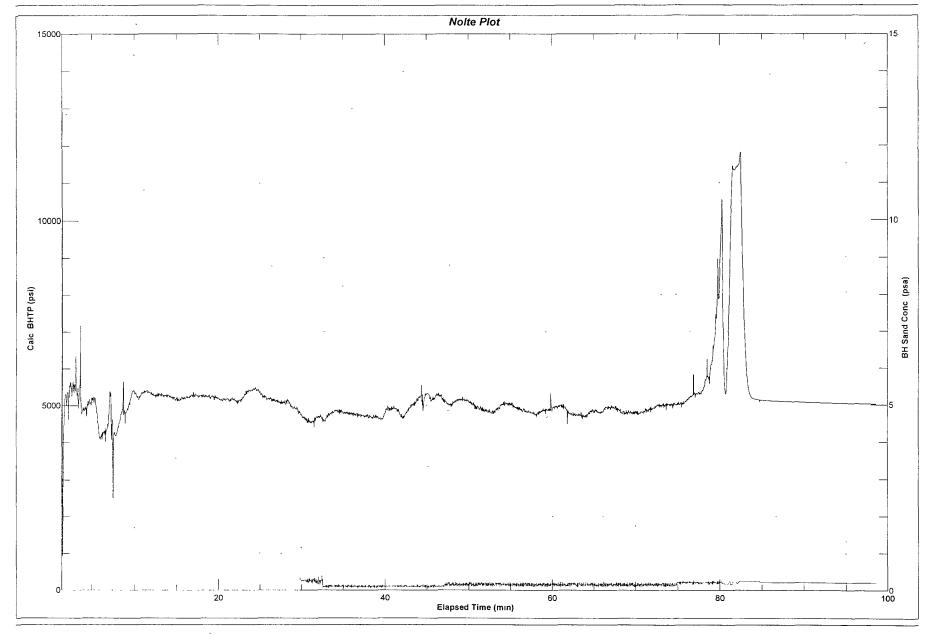




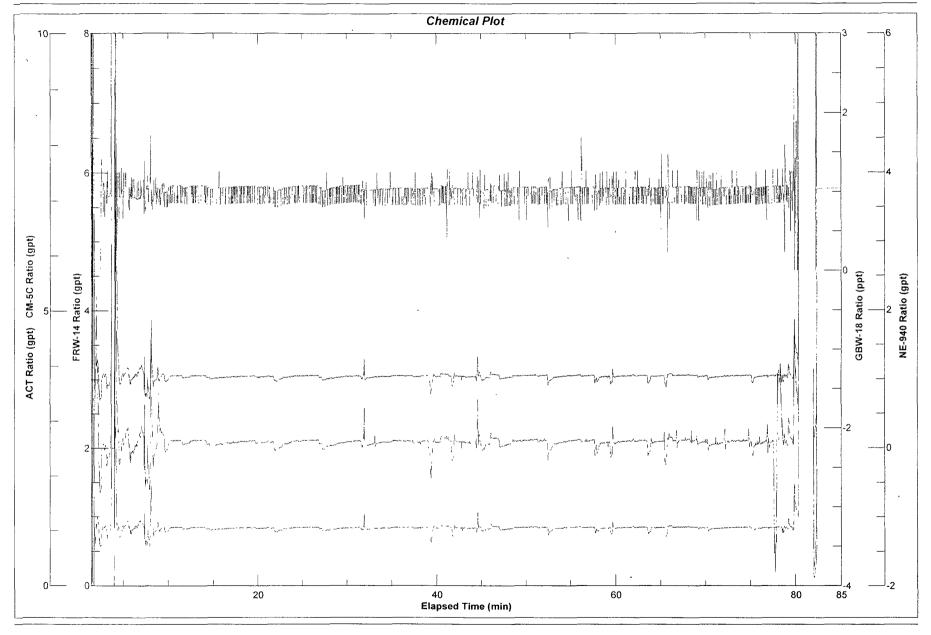








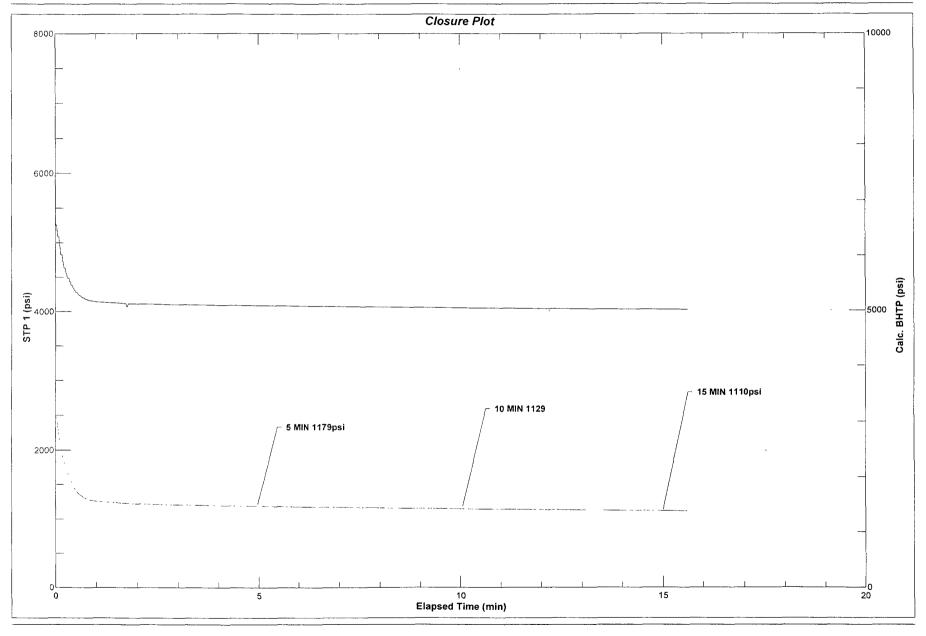






BJ Services JobMaster Program Version 3.20 Job Number: 493910278 Customer: CHI Operating, Inc.

Well Name: Big Eddy Unit #114



Big Eddy Unit 190 30-015-36290 BOPCO, L.P. December 4, 2008 Conditions of Approval

- 1. The revised setting depth for the 9-5/8" casing is approved.
- 2. The formation integrity test variance is not approved. This is not a test of the intermediate casing shoe, but a test to verify that the formation below the shoe will withstand the potential pressure that it might encounter from the lower formations. The BLM geologist indicates that there could be fractures within the Bone Spring formation. The intent of this test is to avoid a subsurface blowout.

**WWI 120408**