

DATE <u>10.27.10</u>	SUSPENSE	ENGINEER <u>DKB</u>	LOGGED IN <u>10.27.10</u>	TYPE <u>DHC</u>	APP NO. <u>1030050041</u>
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



COG
229137

RECEIVED OOD

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

2010 OCT 27 P 1:23

Harvard Fed #6

30-015-35124

Edg

4331

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Harvard Federal #6
30-015-35124 Amended

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement
☒ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

- [D] Other: Specify _____

DHC-4033
(2008)

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☒ Does Not Apply

- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
[B] ☐ Offset Operators, Leaseholders or Surface Owner
[C] ☐ Application is One Which Requires Published Legal Notice
[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
[F] ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Kanicia Carrillo

Print or Type Name

Signature

Regulatory Analyst

Title

8/31/10

Date

kcarrillo@conchoresources.com

e-mail Address

District I
1625 N. French Drive, Hobbs, NM 88240

District II
1301 W. Grand Avenue, Artesia, NM 88210

District III
1000 Rio Brazos Road, Aztec, NM 87410

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107A
Revised June 10, 2003

Oil Conservation Division

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

APPLICATION TYPE

____ Single Well
____ Establish Pre-Approved Pools
EXISTING WELLBORE
____ Yes ____ No

APPLICATION FOR DOWNHOLE COMMINGLING

COG OPERATING LLC

550 W. Texas, Suite 550

Midland, TX 79701

Operator

Address

Harvard Federal

6

Unit E, Sec 12, T-17S, R-30E

Eddy

Lease

Well No.

Unit Letter-Section-Township-Range

County

OGRID No. 229137 Property Code 302440 API No. 30-015-35124 Lease Type: ☒ Federal ____ State ____ Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Square Lake Grayburg SA (Oil)	Loco Hills; Glorieta-Yeso (Oil)	
Pool Code	57570	96718	
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	2725 - 4200	4682 - 5912	
Method of Production (Flowing or Artificial Lift)		Pump	
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)			
Oil Gravity or Gas BTU (Degree API or Gas BTU)			
Producing, Shut-In or New Zone	New Zone	Producing	
Date and Oil/Gas/Water Rates of Last Production. (Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.)	Date: Rates:	Date: 04/5/08 Oil/ Gas /Water Rates: 11/ 24/ 18	Date: Rates:
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil Gas 48% 75%	Oil Gas Oil Gas	Oil Gas 52 % 25 %

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes ☒ No ____

If not, have all working, royalty and overriding royalty interest owners been notified by certified mail? Yes ____ No ____

Are all produced fluids from all commingled zones compatible with each other? Yes ☒ No ____

Will commingling decrease the value of production? Yes ____ No ☒

If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application? Yes ____ No ☒

NMOCD Reference Case No. applicable to this well: _____

Attachments:

- C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- Production curve for each zone for at least one year. (If not available, attach explanation.)
- For zones with no production history, estimated production rates and supporting data.
- Data to support allocation method or formula.
- Notification list of working, royalty and overriding royalty interests for uncommon interest cases.
- Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

- List of other orders approving downhole commingling within the proposed Pre-Approved Pools
- List of all operators within the proposed Pre-Approved Pools
- Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
- Bottomhole pressure data.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Kanicia Carrillo TITLE Regulatory Analyst DATE 8/19/10

TYPE OR PRINT NAME Kanicia Carrillo TELEPHONE NO. (432) 685-4332

E-MAIL ADDRESS kcarrillo@conchoresources.com

District I
1625 N. French Dr., Hobbs, NM 88240

District II
1301 W. Grand Avenue, Artesia, NM 88210

District III
1000 Rio Brazos Rd., Aztec, NM 87410

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised June 10, 2003
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-35124	² Pool Code 57570	³ Pool Name Square Lake; Queen Grayburg SA
⁴ Property Code 302440	⁵ Property Name Harvard Federal	
⁷ OGRID No. 229137	⁸ Operator Name COG OPERATING LLC	
		⁶ Well Number 6
		⁹ Elevation 3744

¹⁰ Surface Location

UL or lot no. E	Section 12	Township 17S	Range 30E	Lot Idn	Feet from the 2310	North/South line North	Feet from the 330	East/West line West	County Eddy
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 40		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

					¹⁷ OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</i> Signature Chasity Jackson Printed Name Agent for COG Title and E-mail Address 7/6/10 Date
					¹⁸ SURVEYOR CERTIFICATION <i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i> Referred Original Plat Date of Survey Signature and Seal of Professional Surveyor: Certificate Number

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division



Administrative Order DHC-4033

Order Date: 5/30/2008

Application Reference Number: pKVR0810854100

COG OPERATING LLC
550 W TEXAS, SUITE 1300
MIDLAND, TX 79701

JUN 09 2008
OCD-ARTESIA

Attention: KANICIA CARRILLO, REGULATORY ANALYST

HARVARD FEDERAL Well No. 006
API No: 30-015-35124
Unit E, Section 12, Township 17 South, Range 30 East, NMPM
Eddy County, New Mexico

Pool:	Undesignated Grayburg Jackson; SR-Q-G-SA	Oil 28509
Names:	Loco Hills; Glorieta-Yeso	Oil 96718

Reference is made to your recent application for an exception to Rule 303.A. of the Division Rules and Regulations to permit the above-described well to commingle production from the subject pools in the wellbore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303.C., and that reservoir damage or waste will not result from such downhole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above and any Division Order which authorized the dual completion or otherwise required separation of the zones is hereby placed in abeyance.

In accordance with Division 303C.(1)(f), the production attributed to any commingled pool within the well shall not exceed the allowable applicable to that pool.

Assignment of allowable to the well and allocation of production from the well shall be done after testing of all intervals to be commingled. The applicant shall submit the allocation percentages to the Division within 60 days following completion of this workover.

REMARKS: The operator shall notify the Artesia District Office of the Division upon implementation of commingling operations.



Pursuant to Rule 303C(2), the commingling authority granted herein may be rescinded by the Division Director if conservation is not being best served by such commingling.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



MARK E. FESMIRE, P.E.
Director

cc: Oil Conservation Division – Artesia
Bureau of Land Management - Carlsbad

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTJAN 21 2009
OCD-ARTESIAFORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010**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 reverse side.**

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No. HARVARD FEDERAL 6
2. Name of Operator COG OPERATING LLC		9. API Well No. 30-015-35124-00-C2
3a. Address 550 W TEXAS, STE 1300 FASKEN TOWER II MIDLAND, TX 79701		10. Field and Pool, or Exploratory GRAYBURG JACKSON
3b. Phone No. (include area code) Ph: 432-685-4332		11. County or Parish, and State EDDY COUNTY, NM
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 12 T17S R30E SWNW 2310FNL 330FWL		

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input 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 checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" 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 recomple 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.)

DHC-4033 Hung on SA perfs only.
09/30/08 MIRU WSU. Unseat pump. TOOH with rods and pump, release TAC. NU BOP, TOOH tallying 2 7/8" J-55 TBG., (183 JTS.). TIH with 4 3/4 BIT, 5 1/2 scraper and TBG to 4800' KB. TOOH LD bit and scraper. TIH with RBP and PKR and 2 7/8 TBG. Set RBP @4617. Test RBP to 500 PSI, tested OK. Pull PKR up and set @ 4245' KB.
10/01/08 Swab perfs 4290 to 4490'. Recover 58 BBLS, catch sample. Move PKR and RBP. Straddle perfs 4000' to 4200'. Swab back 52 BBLS catch sample. Move PKR and RBP. Straddle perfs 3730' to 3930'. Swab back 50 BBLS. Catch sample, move PKR and RBP up to straddle perfs 3460' to 3660'.
10/02/08 SITP 0 PSI, PKR @3437' KB, RBP @ 3688' KB, San Andres perfs @ 3460' to 3660'. Fluid level on 1st run, 1900' from surface. Swab back 50 BBLS. Catch sample, 100% oil. Continue to swab. Oilcut started to decrease. Made total of 24 runs. Fluid level 2500' from surface. Recovered 66 BBLS oil, 44 BBLS water, Secure well, SION. Oil cut 80% on last run.

14. I hereby certify that the foregoing is true and correct	
Electronic Submission #65719 verified by the BLM Well Information System For COG OPERATING LLC, sent to the Carlsbad Committed to AFMSS for processing by KURT SIMMONS on 12/29/2008 (09KMS0664SE)	
Name (Printed/Typed) KANICIA CARRILLO	Title PREPARER
Signature (Electronic Submission)	Date 12/18/2008

ACCEPTED FOR RECORD

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ACCEPTED		JAMES A AMOS Title SUPERVISOR EPS	Date 01/18/2009
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 Carlsbad	

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Additional data for EC transaction #65719 that would not fit on the form

32. Additional remarks, continued

10/03/08 SITP 130 psi. Fluid level 2300', 1st run 80% oil, as we swabbed oil cut decreased, made 16 runs. Recovered 66 BBLS water, 13 BBLS oil. Final fluid level 2500', total oil in tank 79 BLS.

10/06/08 SITP 130 PSI. Make 4 swab runs. Fluid level 2500', 1st run 90% oil, 4th run 40% oil. Release PKR. Retrieve RBP. Reset RBP @ 3437' KB. Reset PKR @ 3126' KB. Start swabbing. Fluid level 2800', first run 70% oil, hard blow of gas after every run. Fluid level staying @ 2800'. Recover 27 oil 21 water.

10/07/08 SITP 250 PSI. Fluid level 2300'. 1st run 90% oil, well has hard gas blow in between runs. Fluid level 2700' Swab well dry. Make hourly runs, 200'. Fluid entry per hour. Recover 7 BBLS water, 9 BBLS oil. Fluid level 2850' last run, sample 70% oil.

10/09/08 SITP 245 PSI. Fluid level 2500'. 1st run 90% oil. Pump 10 bbls water down tbg, Release pkr. TIH to RBP, release RBP. Reset RBP at 4600'. Reset PKR @ 4587' KB, test RBP to 1,000, held. TOOH with tbg laying down 65 jts. TIH with pkr, RBP and TBG. set RBP @ 3713' KB, set pkr and test RBP to 1,000 psi, held. TOOH LD PKR. TIH with 2 7/8 mud JT, 4' x 2 7/8 perforated sub, 2 7/8 seat nipple, 1 jt Endura Alloy TBG, 15 JTS 2 7/8, 5 1/2" x 2 7/8 TAC, 2 JTS 2 7/8, 2' x 2 7/8 marker sub, 98 JTS 2 7/8 TBG. ND BOP, set TAC in 10K tension, flange well up, TIH with 2.0 x 2.5 x 20' pump with 6' gas anchor, 12 x 1 3/8" K-bars, 82 x 3/4" rods, 48 x 78 rods, 1 x 2' x 7/8 sub, 1 14 x 26' polish rod, with 1 1/4" x 1 1/2" x 16' liner. Space out well. Hang well on. Load and test pump to 500 PSI, tested good. RDMO WSU.

Brooks, David K., EMNRD

From: Brooks, David K., EMNRD
Sent: Friday, October 29, 2010 2:16 PM
To: 'kcarrillo@conchoresources.com'
Subject: Harvard Federal #6; DHC Application

Dear Ms. Carrillo

I have in hand the referenced application.

I note that the bottomhole pressure data is not provided on the Form C-107-A. Since the depth of the perforations in the Yeso are more than 150% of the depth of the perforations in the top perf in the Grayburg San Andres, that data is required. See Rule 12.11(a)(3).

Sincerely

David K. Brooks
Legal Examiner

Brooks, David K., EMNRD

From: Chasity Jackson [cjackson@conchoresources.com]
Sent: Wednesday, November 10, 2010 8:49 AM
To: Brooks, David K., EMNRD
Subject: Harvard Federal 6 Admin app
Attachments: Harvard Federal 6.pdf

I have attached the application with the bottom pressure along with the procedure that was done. If you need anything else please let me know.

Thank you,

Chasity Jackson
COG OPERATING LLC
550 W. Texas Avenue, Suite 100
Midland, Texas 79701
D.432.686.3087
F.432.685.4396
 **CONCHO**

CONFIDENTIALITY NOTICE: The information in this email may be confidential and/or privileged. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein, is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you.

District I
1625 N. French Drive, Hobbs, NM 88240

District II
1301 W. Grand Avenue, Artesia, NM 88210

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1000 Rio Hondo Road, Artesia, NM 87410

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State of New Mexico
Energy, Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-107A
Revised June 10, 2003

APPLICATION TYPE
____ Single Well
____ Establish Pre-Approved Pools
EXISTING WELLBORE
____ Yes ____ No

APPLICATION FOR DOWNHOLE COMMINGLING

Operator COG OPERATING LLC Address 550 W. Texas, Suite 550 Midland, TX 79701
Lease Harvard Federal Well No. 6 Unit Letter-Section-Township-Range Unit E, Sec 12, T-17S, R-30E County Eddy
OGRID No. 229137 Property Code 302440 API No. 30-015-35124 Lease Type: ☒ Federal ____ State ____ Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Square Lake Grayburg SA (Oil)	Loco Hills: Glorieta-Yeso (Oil)	
Pool Code	57570	96718	
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	2725 - 4200	4682 - 5912	
Method of Production (Flowing or Artificial Lift)		Pump	
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)		585psi	
Oil Gravity or Gas BTU (Degree API or Gas BTU)			
Producing, Shut-In or New Zone	New Zone	Producing	
Date and Oil/Gas/Water Rates of Last Production. (Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.)	Date: Rates:	Date: 04/5/08 Oil/ Gas /Water Rates: 11/ 24/ 18	Date: Rates:
Fixed Allocation-Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil Gas 48% 75%	Oil Gas 52 % 25 %	Oil Gas

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes ☒ No ____
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail? Yes ____ No ____
Are all produced fluids from all commingled zones compatible with each other? Yes ☒ No ____
Will commingling decrease the value of production? Yes ____ No ☒
If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands
or the United States Bureau of Land Management been notified in writing of this application? Yes ____ No ☒
NMOCD Reference Case No. applicable to this well: _____

Attachments:

C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
Production curve for each zone for at least one year. (If not available, attach explanation.)
For zones with no production history, estimated production rates and supporting data.
Data to support allocation method or formula.
Notification list of working, royalty and overriding royalty interests for uncommon interest cases.
Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

List of other orders approving downhole commingling within the proposed Pre-Approved Pools
List of all operators within the proposed Pre-Approved Pools
Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
Bottomhole pressure data.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE K. Carrillo TITLE Regulatory Analyst DATE 11/10/10

TYPE OR PRINT NAME Kanicia Carrillo TELEPHONE NO. (432) 685-4332

E-MAIL ADDRESS kcarrillo@conchoresources.com

The Harvard Fed #6 required a reservoir pressure for the Yeso due to the distance from Yeso perfs and San Andres perfs located in this well. Determining the reservoir pressure from just the Yeso in the Harvard Fed #6 is not a simple as shutting in the well and shooting the fluid level and would require additional expense with pulling the tubing and rods and running a packer in the well to isolate the San Andres perfs from the Yeso perfs.

Therefore, COG Operating LLC shut in the Harvard Fed #9 located 920' NE of the Harvard Fed #6 (see attached map for well locations). The Harvard Fed #9 is completed in only the Yeso. The Harvard Fed #9 was chosen as a close Yeso only well in order to determine the reservoir pressure in the Yeso in this area. COG believes this pressure is indicative of Yeso pressure in this area and would request that this pressure be utilized for the Yeso pressure on the DHC Application for the Harvard Fed #6. The Harvard Fed #9 was shut in for a total of 7 days before a fluid level was shot to determine the reservoir pressure.

A.L. Tech Services
P.O. Box 1304
Artesia NM ,88211-1304

Tech: Jimmy Smith
Cell (575)703-9922
Fax (575)746-3794

Concho Resources – Stan Hammond – 11-8-10

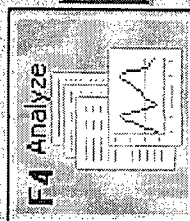
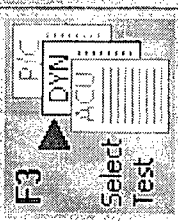
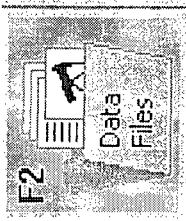
11-8-10 Calc. FAP 976' Liquid Level/ from Surf 4916' P.F 100% Csg # 109

Harvard Fed # 9 – Well is shut down and shut in. The SBHP is 585#. I cracked the tubing and casing valve open to bleed the pressure off. No other changes for now.

File Mode Option Tools Help

Acquire Mode

Recall Mode



Select Liquid Level

Production:

Oil	Current	Potential	BBL/D
Water	201		BBL/D
Gas	121.0		Mscf/D

IPR Method

FBHP/SBHP

Producing Efficiency

Fluid Densities

Oil	37	deg API
Water	1.05	Sp Gr H2O
Gas Gravity	0.77	Air = 1

Acoustic Velocity

SBHP Worksheet

Pump Submergence

Comment

Well is shut down and shut in.

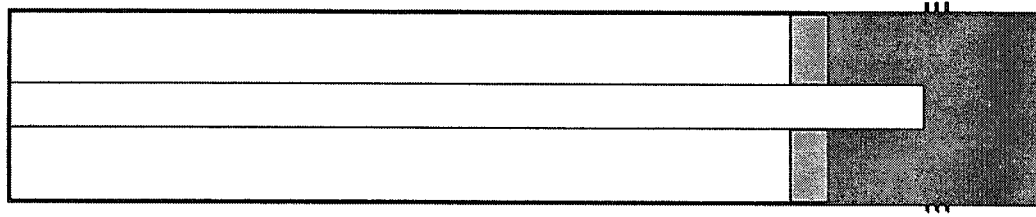
Depth Determination

Casing Pressure

Collars

Well State

Casing Pressure	108.8	psi(g)
Casing Pressure Buildup	0.018	psi
	2.00	min
Gas/Liquid Interface Pres.	126.1	psi(g)
Liquid Level Depth		
MD	4916.14	ft
Formation Depth		
MD	6000.00	ft



Oil Column Height

MD 294 ft

Water Column Height

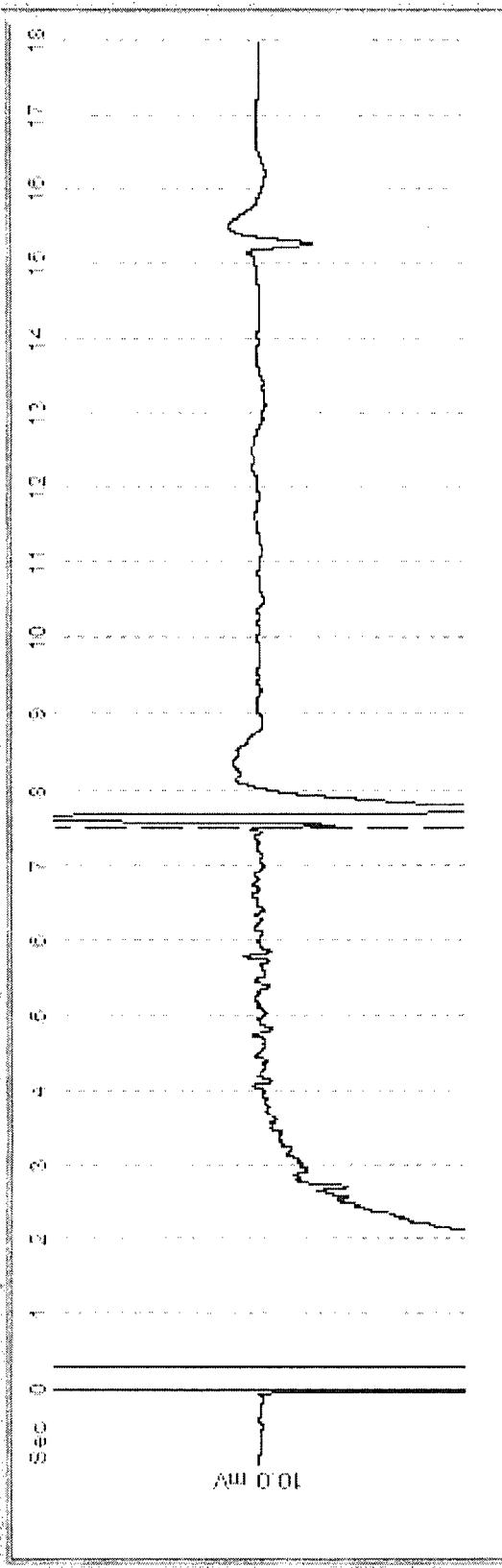
MD 790 ft

Reservoir Pressure (SBHP)

535.5 psi(g)

< Pg Up

Pg Down >



Indicator @ 7.488 sec ☒ Apply Low Pass Filter Move Indicator Left Right

Go to Automatically Selected Kicks

<< Prev Kick Next Kick >>

Reset

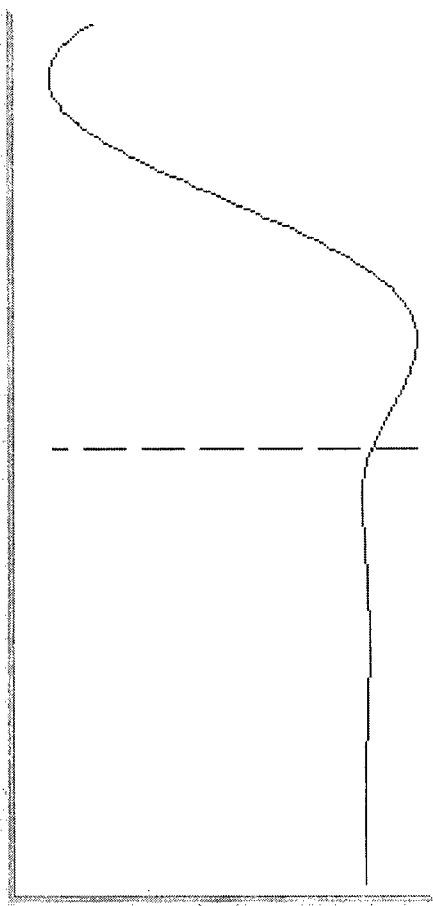
Scale Shot Trace

Scale Up Scale Down

Reset

[Alt-1] Gun Parameters

Pulse Type: ☒ Explosion ☐ Implosion



F2 Data Files

F3 Select Test

F4 Analyze