BW - 036

MECHANICAL INTEGRITY TEST (MITs)

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, June 27, 2017 9 41 AM
To 'Gary Schubert'
Cc: Griswold, Jim, EMNRD, Whitaker, Mark A, EMNRD, Fortner, Kerry, EMNRD
Subject: RE BW-36 Schubert Farms Well No 1 (API# 30-025-37548) OCD June 2, 2017 MIT Approval

Gary

Good morning The New Mexico Oil Conservation Division (OCD) is in receipt of and has completed its evaluation of the requested information.

OCD has determined that the above subject well MIT passed.

OCD review and reading from the original MIT chart indicates a start pressure of 325 psig and end pressure of 300 psig However, based on the spring weight, 24-hr chart scale, and clock speed, etc run for the MIT, OCD does not discount your stated pressures below

OCD evaluated this Cavern MIT Method utilizing the "Casing MIT" Pressure of +/- 10% Pass/Fail due to the low volume of fluids associated with the new brine well and small cavern size. As the cavern size matures, and fluid volume increases, OCD will communicate closely with the Permittee on MIT interpretations, and will eventually implement the +/- 1% Pass/Fail evaluation for the Cavern MIT method. In addition, OCD may require a Casing MIT to be run in lieu of a Cavern MIT in the future.

Please contact me if you have questions. Thank you

Mr Carl J Chavez, CHMM (#13099)
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe, New Mexico 87505
Ph (505) 476-3490
E-mail CarlJ Chavez@state nm.us
"Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?" (To see how, go to: http //www emnrd state nm us/OCD **and see "Publications")**

From Gary Schubert [mailto garymschubert@gmail com]
Sent Tuesday, June 27, 2017 8 22 AM
To: Chavez, Carl J, EMNRD <CarlJ Chavez@state nm us>
Subject: BW-36

Mr Chavez,

Attached is the requested information regarding the MIT test on the Schubert Farms Well No. 1 (BW-36).
1 Signed letter from Mr. Larry Scott
2 Calibration information on Chart Recorder from Maclaskey Oilfield Services

3 I am sending the originals in mail today

A couple of clarifications/comments·
1 I made an error on OCD employee; Mr. Bowers is correct.
2 I was advised by Mr. Bowers on our phone conversation to start the test as the procedure states When Mr Fortner arrived (approximately 1 hour later) I believe he spoke with you and was advised to bleed the pressure off of the chart recorder and then open the recorder back to the formation (please see submitted procedure). My interpretation of the test pressure at that time was approximately 320 psi. The test was conducted for 4 hours from that time to an ending pressure of approximately 305 psi (these were the interpretations of myself, Mr Scott as he stated in his letter) and the Maclaskey personnel, which would indicate a 12 to 15 psi loss as stated by Mr Scott
3 It is my opinion that since the formation cavern volume is as you stated virtually nil any seepage or saturation of fluid into the formation (which had previously not seen anything above static pressure) would show more than normal pressure drop (because of the small cavern volume). I see no spike or irregular "blip" on the chart that would indicate a leak out of the salt formation
4 I would recommend that we operate the well as permitted, monitor very closely the injection volumes, pressures, and brine weight, and report monthly to the OCD If anything out of the norm is observed we should retest with a 500 lb. spring chart recorder (the 500 lb. recorder is hard to come by; none of the trucking companies have them) I am currently on a waiting list from a meter company to rent or buy a 500 lb. recorder when one is available and calibrated.

Please let me know your thoughts and let me know if you require any further information Thanks for your cooperation and help

Best Regards,

Gary

--
Gary M. Schubert

Lynx Petroleum Consultants, Inc.

P O Box 1708
3325 Enterprise Drive
Hobbs, New Mexico 88241

575 392-6950 Fax 575 392-7886

June 9, 2017

New Mexico Oil Conservation Division
1625 N French Drive
Hobbs, New Mexico 88240

Re HRC Inc Schubert Farms Brine Well No 1 (BW-36)
API#230-025-2976

Gentlemen

I was requested by the principal to review the pressure tests run on the above well which were performed on June 2, 2017 and exhibited a pressure loss over several test intervals of some 12-15 psig The concern expressed was that this loss slightly exceeded that allowed by the OCD (9 6 psig)

This wellbore was recently completed in the halite interval and has no significant operational history in this zone The well was originally drilled and completed in several intervals below the halite in attempts to establish hydrocarbon production This history would lead to the conclusion that there has been no significant "mining" of the salt with the operations that have been conducted so far

Although I am unable to develop a quantitative analysis due to incomplete data, there is a qualitative observation that can be drawn from the wellbore history along with the charts The pressure tests were conducted with fresh water It is therefore probable that solution mining was underway during the test period Water chemistry dictates that volume losses converting fresh water to brine are on the order of 3%, that is, 43 3 gallons of material (water + halite) are required to generate 42 gallons of saturated brine The volume decrease as a result of salt going into solution could very well be the cause of the pressure loss This effect is masked during pressure tests on established brine wells due to the fact that there is already a large reservoir of brine in the cavern I am of the opinion that there is nothing leaking here and that the wellbore should be approved to commence operations

Sincerely
Lynx Petroleum Consultants, Inc

Larry R. Scott

Larry R Scott
President

MACLASKEY
OILFIELD SERVICES

5900 WEST LOVINGTON HWY HOBBS N.M. 88240
575-393-7316

THIS IS TO CERTIFY THAT. DATE 5-1-17

I, Albert Rodriguez METER TECHNICAN FOR MACLASKEY OILFIELD SERVICES, INC HAS CHECKED THE CALIBRATION ON THE FOLLOWING INSTRUMENT. 1000 PRESSURE RECORDER

SERIAL NUMBER 9501

TESTED AT THESE POINTS.

PRESSURE 500

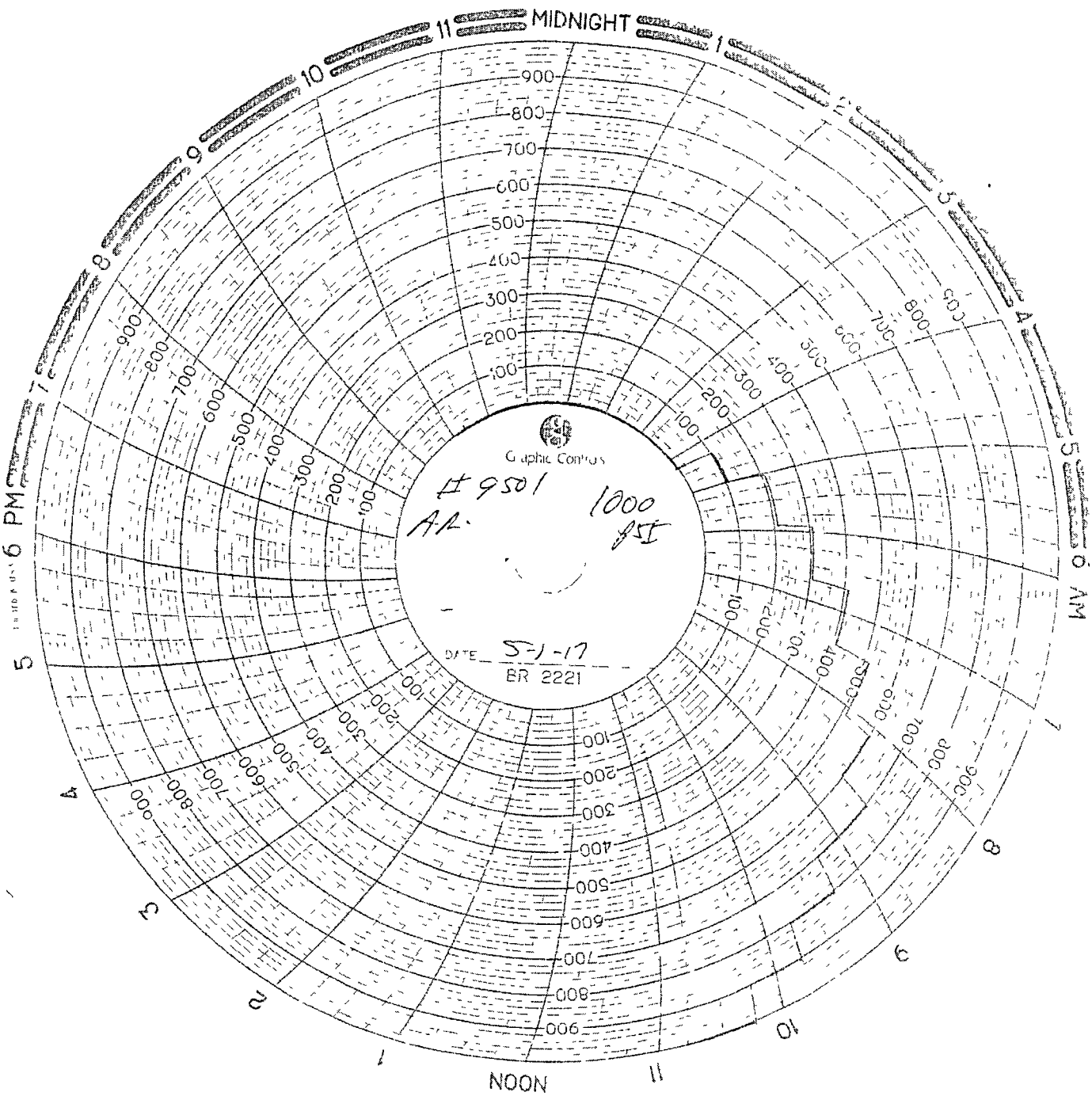
TEST	AS FOUND	CORRECTED
0	100	✓
100	200	✓
200	300	✓
300	400	✓
400	500	✓

PRESSURE 1000

TEST	AS FOUND	CORRECT
500	600	✓
600	700	✓
700	800	✓
800	900	✓
900	1000	✓

REMARKS

SIGNED Albert Rodriguez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GARY SCHUBERT
P.O. BOX 6056
HOBBS, NEW MEXICO 88240
(505) 393-3194

JOB _____

SHEET NO _____ OF _____

CALCULATED BY _____ DATE _____

CHECKED BY _____ DATE _____

SCALE _____

SEP 21 A.M. 04

CARL

PLEASE SEE NOTES / CHART / EXPLANATION OF MIT TEST. PLEASE GIVE ME A CALL WHEN YOU RECEIVE SO WE CAN DISCUSS A BIT.

THANKS,

Greg

HRC INC.
P. O. Box 5011
Hobbs, NM 82841
(Office) 575-393-6662 (Fax) 575-397-2976

HRC Inc. Schubert Farms Brine Well No. 1 (BW-36)

MIT TEST

6-2-2017

7:30 AM
Rig up Maclaskey Oilfield Services Pump Truck - (David Arron) at 7:30AM

Hook up backside CSG Pump 5 5 bbl to 500 psi for 5 minutes; bleed down to 360 psi for 1.5 hours.

Call OCD to request witness of test talk to George Saenz (OCD) He advises to bleed pressure to 320 psi and start chart at 11:15AM

Kerry Fortner, (OCD) arrives to witness test Kerry Fortner witnessed chart recorder calibration. He advises to bleed pressure off chart recorder to 0 psi and then open pressure back to chart recorder (note on chart) Run chart. Test for 4 hours Begin test 12:20 pm Complete test at 4:20 pm

David Arron (Maclaskey Oilfield Services)

See enclosed test explanation from Lynx Petroleum Consultants, Inc

June 9, 2017

New Mexico Oil Conservation Division
1625 N French Drive
Hobbs, New Mexico 88240

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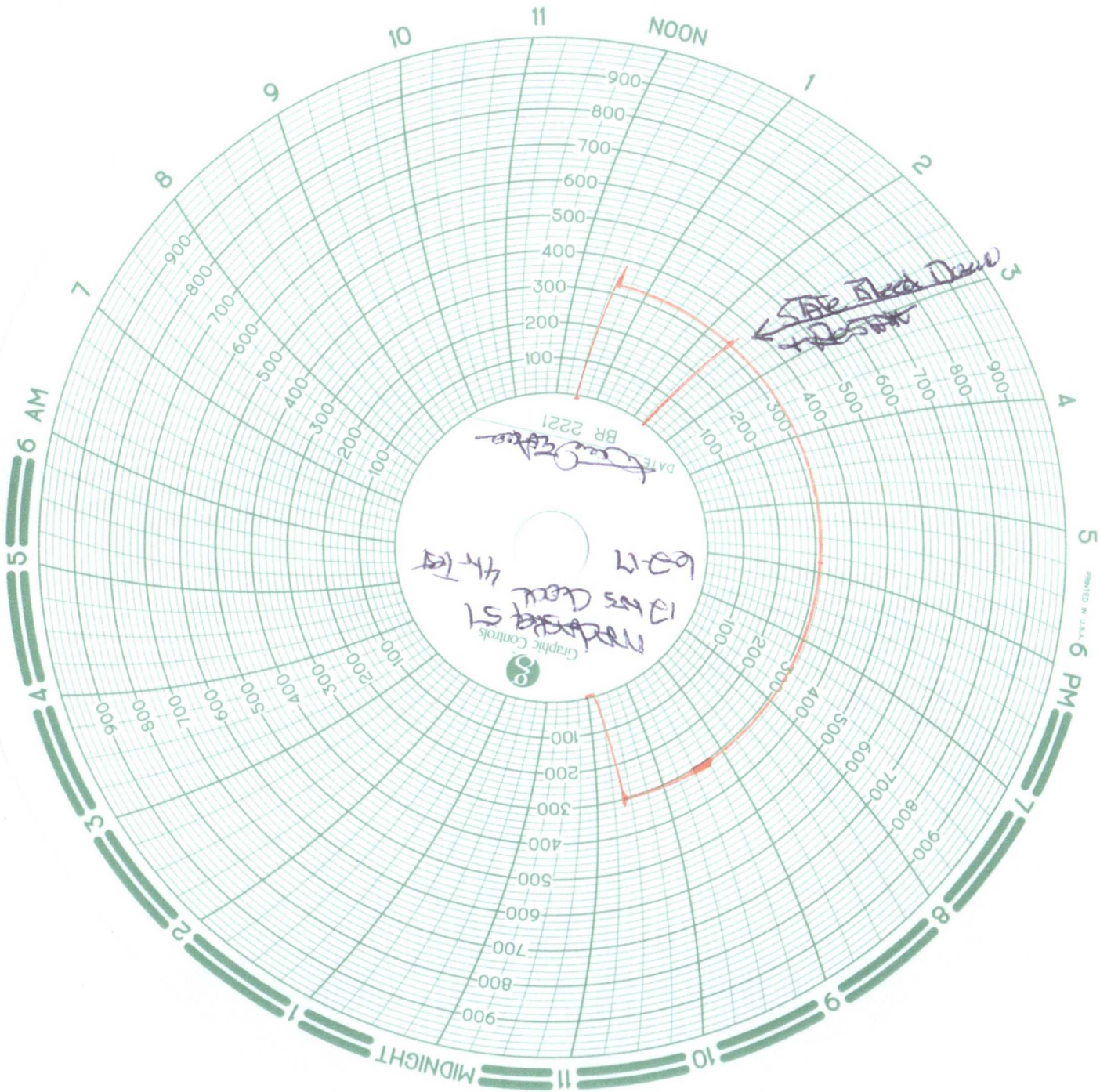
Sincerely
Lynx Petroleum Consultants, Inc

Larry R Scott
President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