Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

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State of New Mexico
Energy, Minerals and Natural Resources

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OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised July 18, 2013

WELL API NO. 30-025-42628

5. Indicate Type of Lease STATE ☐ FEE ☐ FEDERAL ☒

6. State Oil & Gas Lease No. NMLC029509A

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name: Maljamar AGI

1. Type of Well: Oil Well ☐ Gas Well ☐ Other: Acid Gas Injection Well ☒

8. Well Number #2

2. Name of Operator: Frontier Field Services LLC

9. OGRID Number 221115

3. Address of Operator: 65 Mercado Street, Suite 250, Durango, CO 81301

10. Pool name or Wildcat: AGI: Wolfcamp

4. Well Location
Unit Letter O : 400 feet from the SOUTH line and 2,100 feet from the EAST line
Section 21 Township 17S Range 32E NMPM County Lea

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* 4,019 (GR)

FOR RECORD ONLY

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐		OTHER: ☐	
OTHER: (Variance to the original approved APD) ☒			

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

The second (lower) intermediate casing borehole of the Maljamar #2 well began to be drilled on Friday afternoon, February 5, 2016. The 12.25-inch borehole was drilled through 2,567 feet of 13.375-inch first intermediate casing and completed to a depth of 6,524 feet (MD) on February 11, 2016. The drill bit became stuck at 5,779 during the trip out of the hole. The drilling crew utilized surface jars and vibration subs in an attempt to free the pipe, but ultimately the installation of a bottom hole jar was required to free the pipe on February 13, 2016. Due to the problems encounter with the stuck pipe, a decision was made to cement the second intermediate casing in two stages.

The second intermediate casing was constructed of 150 joints of 9.625-inch, 40 lb/ft, HCL-80 grade, LTC casing, with a DV tool at 5,277.5 feet. Additional cement was used during the first stage to insure coverage above the DV tool. A fluid caliper log was run through the second stage pipe to verify that enough cement was used to insure circulation to the surface. The results indicated an average borehole diameter of 13.625 inches between the bottom of the first intermediate casing (2,567 feet) and the DV tool depth (see Attachment A). A schematic of the Maljamar AGI #2 well design and final installation pipe tally are provided in Attachment B.

Halliburton provided the services for the Maljamar AGI #2 second intermediate casing two-stage cement job. The compressive strength test results were onsite before the start of cement job and Geolex provided the report to the BLM for their review prior to cementing.

The first stage of the second intermediate casing for Maljamar AGI #2 was cemented on Monday afternoon, February 15, 2016 using a lead of 100 sacks of ECONOCEM (trade mark) SYSTEM, with a yield of 1.895 cubic feet per sack and a tail of 420 sacks of VERSACEM (trade mark) SYSTEM with a yield of 1.217 cubic feet per sack. Sixty bbls (215 sacks) of stage #1 cement from above the DV tool was circulated to the surface.

The second stage of the second intermediate casing was cemented on early Tuesday morning, February 16, 2016 using a lead of 1,340 sacks of ECONOCEM (trade mark) SYSTEM, with a yield of 1.871 cubic feet per sack and a tail of 100 sacks of Premium Plus Cement with a yield of 1.328 cubic feet per sack. One hundred bbls (300 sacks) of stage #2 cement was circulated to the surface, as witnessed onsite by Yolanda Jordan (BLM). The cement did not bump the plug so the casing was shut-in under pressure for 4 hours; wait on cement (WOC) time, from shut-in until BOP testing, was 24 hours. Halliburton cement laboratory reports, summary job report, and circulation photographs are provided in Attachment C.

BL 2/23/16

On Wednesday February 17, 2016 the 9.675-inch BOP was installed and successfully pressure tested at 250 and 5,000 psi, with the annular tested at 250 and 3,500 psi. Casing integrity tests (CITs) were performed at the DV tool (1,500 psi for 30 minutes), the cement tag point (1,500 psi for 30 minutes), and approximately 5 feet above the casing shoe (1,500 psi for 30 minutes). The CIT at the cement tag point had to be run three times because of a leaking valve, but ultimately all were successful.

Following the CITs, the drill string was removed and a cement bond log (CBL) for the second intermediate casing was run. The CBL was provided to Kenneth Rennick (BLM) who approved the cement job and authorized the drilling of the production casing borehole, which began with a successful formation integrity test (FIT). Results and charts for the BOP test, CIT, and FIT are provided in Attachment D and the CBL is provided in Attachment E.

Spud Date: January 25, 2016 Rig Release Date:

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

SIGNATURE Michael W Selke TITLE Consultant to Frontier Energy LLC DATE 2-23-16

Type or print name Michael W Selke E-mail address: mselke@geolex.com PHONE: 505-842-8000

For State Use Only

APPROVED BY: TITLE DATE
Conditions of Approval (if any):

FOR RECORD ONLY

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FEB 2 2 2016
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BS 2/23/16

ATTACHMENT A
Maljamar AGI #2 – 2nd Intermediate Casing:

- **Fluid Caliper Log**

ELLISON
FLUID CALIPERS L.L.C.

P.O. Box 15039
Odessa, Texas 79768
Off: 432/634-0500

INVOICE
13834

DELIVERED TO: Running Horse

DATE February 16, 2016

LEASE Maljamar AGI WELL NO. 2

RIG Trinidad 431

ORDERED BY Mike Satterfield

VIA

ORDER NO.

DEPTH	DESCRIPTION OF CHARGES	CHARGES	TOTAL
	TO RUN FLUID CALIPER TO A DEPTH OF 5277 FEET		
	TO DETERMINE THE VOLUME IN CUBIC FEET REQUIRED		
	TO CIRCULATE CEMENT BEHIND YOUR 9 5/8 in. CASING.		
	ANNULAR VOLUME TO PRESENT DEPTH — CU. FT.	BASE CHARGE 895	895.00
0/5277'	ANNULAR VOLUME TO T.D. 2298 CU. FT.	DEPTH CHARGE 5277 FT. X .12 / FT.	633.24
0/2567'	ANNULAR VOLUME TOP STAGE 896 CU. FT. between casings	DEPTH CHARGE — FT. X — / FT.	
2567'/5277'	ANNULAR VOLUME BTM STAGE 1402 CU. FT. openhole	MILEAGE 258 MILES X 1.95 / MILE	503.10
	AVERAGE HOLE SIZE 13 5/8 INCHES	ROUND TRIP FROM Odessa	
	WASHOUT 65 % O.T.H. ANNULAR VOLUME	STAND BY TIME 2 HR. X 89 / HR.	178.00
	Thank You! Tom Elrod	New Mexico Sales Tax →	113.23
		TOTAL	2322.57

DELIVERED BY Actual

I, the above signed, do hereby certify that I have full authority to obtain the above listed tools and/or supplies, and to have same charged as above. I certify also that I have examined the tools and found them in good serviceable condition and accept them with the understanding that

FIRST: Rental will be charged for the entire number of days away from shop.
SECOND: Charge will be made for all expenses, such as freight, expressage and hauling.
THIRD: Charge will be made for any damage or for the loss of any parts.
FOURTH: Tools out 30 days will be invoiced on delivered basis.
FIFTH: All accounts are payable in Odessa, Ector County, Texas.
SIXTH: All tools are for rental only unless we otherwise expressly specify. Accrued rental charges will be applied against any tool lost or damaged beyond repair in addition to full rental price.
SEVENTH: We do not guarantee any rental tool in any respect and party renting same assumes all responsibility while tool is in his possession. Charge will be made for all expense such as telephone or telegraph messages, freight, expenses and drayage and all damages to tools and all parts lost or destroyed. We reserve and retain title to all property mentioned herein until all rental charges and the purchase price is fully paid. Used tools or equipment are not subject to return under any circumstances.
EIGHTH: Terms 30 Days Net. A Finance Charge of 1 1/2% per month, which is an annul percentage rate of 18% will be added on past due accounts. Any claims arising in connection with this invoice must be made within 30 days from the receipt thereof.

RECEIVED & ACCEPTED BY

ATTACHMENT B

Maljamar AGI #2 - 2nd Intermediate Casing:

- **Well Design Schematic**
- **Surface Casing Tally**

Aka Energy / Frontier Field Services / RWPC

Maljamar AGI #2

SHL: 400' FSL & 2100' FEL

BHL: 350' FSL & 650' FWL

Section 21 - T17S - R32E

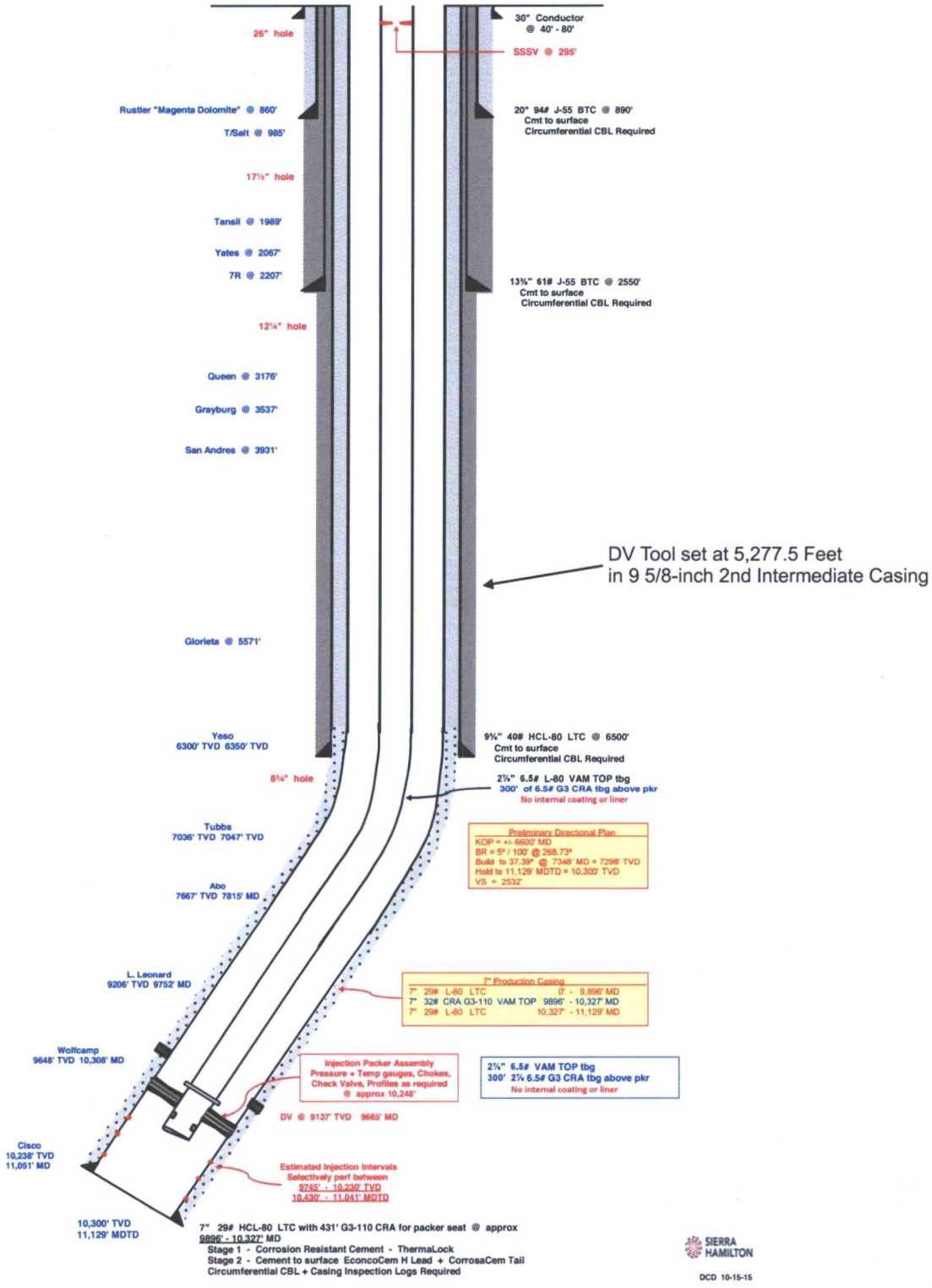
Lea County, New Mexico

API No. 30 - 025 - 42628

Preliminary WB Plan with Salt String

9¾" @ 6500' / 7" @ 10,300' TVD = 11,129' MD

This is a directional well - all depths are TVD unless otherwise noted.



SIERRA HAMILTON

DCD 10-15-15

AGI #2

9 5/8" 40# HCL-80 LTC Drifted @ 8.75

Date: TOMORROW **Hole TD:** 6524 **Casing Set @:** 6524

Joint Number	Running Order	Length	Running Depth ft/RKB	Landed Depth, top ft/RKB	Landed Depth, bttm ft/RKB	Comments
	FS	1.80	1.80	6522.20	6524.00	Float shoe
1	1	45.32	47.12	6476.88	6522.20	Turbolizer with stop ring
	FC	2.00	49.12	6474.88	6476.88	Float collar
2	2	45.38	94.50	6429.50	6474.88	Turbolizer
3	3	42.39	136.89	6387.11	6429.50	Turbolizer
4	4	45.33	182.22	6341.78	6387.11	Turbolizer
5	5	45.38	227.60	6296.40	6341.78	Turbolizer
6	6	45.39	272.99	6251.01	6296.40	Turbolizer
7	7	45.33	318.32	6205.68	6251.01	Turbolizer
8	8	42.60	360.92	6163.08	6205.68	
9	9	42.53	403.45	6120.55	6163.08	
10	10	42.52	445.97	6078.03	6120.55	Turbolizer
11	11	42.59	488.56	6035.44	6078.03	
12	12	45.41	533.97	5990.03	6035.44	
13	13	45.35	579.32	5944.68	5990.03	Turbolizer
14	14	45.68	625.00	5899.00	5944.68	
15	15	45.34	670.34	5853.66	5899.00	
16	16	45.37	715.71	5808.29	5853.66	Turbolizer
17	17	45.31	761.02	5762.98	5808.29	
18	18	45.31	806.33	5717.67	5762.98	
19	19	45.34	851.67	5672.33	5717.67	Turbolizer
20	20	45.30	896.97	5627.03	5672.33	
21	21	45.34	942.31	5581.69	5627.03	
22	22	45.31	987.62	5536.38	5581.69	Turbolizer
23	23	45.38	1033.00	5491.00	5536.38	
24	24	45.32	1078.32	5445.68	5491.00	
25	25	45.34	1123.66	5400.34	5445.68	Turbolizer
26	26	44.96	1168.62	5355.38	5400.34	
27	27	44.48	1213.10	5310.90	5355.38	
28	28	33.40	1246.50	5277.50	5310.90	DV Tool
29	29	44.89	1291.39	5232.61	5277.50	
30	30	44.50	1335.89	5188.11	5232.61	
31	31	45.33	1381.22	5142.78	5188.11	Turbolizer
32	32	45.31	1426.53	5097.47	5142.78	
33	33	45.30	1471.83	5052.17	5097.47	
34	34	44.08	1515.91	5008.09	5052.17	Turbolizer
35	35	44.46	1560.37	4963.63	5008.09	
36	36	43.42	1603.79	4920.21	4963.63	
37	37	45.30	1649.09	4874.91	4920.21	
38	38	44.53	1693.62	4830.38	4874.91	Centralizer
39	39	44.96	1738.58	4785.42	4830.38	
40	40	44.90	1783.48	4740.52	4785.42	
41	41	44.93	1828.41	4695.59	4740.52	
42	42	44.48	1872.89	4651.11	4695.59	Centralizer
43	43	44.52	1917.41	4606.59	4651.11	
44	44	44.27	1961.68	4562.32	4606.59	
45	45	44.45	2006.13	4517.87	4562.32	
46	46	45.30	2051.43	4472.57	4517.87	Centralizer
47	47	44.89	2096.32	4427.68	4472.57	
48	48	45.34	2141.66	4382.34	4427.68	
49	49	45.30	2186.96	4337.04	4382.34	
50	50	45.31	2232.27	4291.73	4337.04	Centralizer
51	51	44.47	2276.74	4247.26	4291.73	
52	52	42.77	2319.51	4204.49	4247.26	
53	53	44.40	2363.91	4160.09	4204.49	

54	54	44.27	2408.18	*4115.82*	*4160.09*	Centralizer
55	55	45.33	2453.51	*4070.49*	*4115.82*	
56	56	45.33	2498.84	*4025.16*	*4070.49*	
57	57	45.32	2544.16	*3979.84*	*4025.16*	
58	58	44.36	2588.52	*3935.48*	*3979.84*	Centralizer
59	59	45.35	2633.87	*3890.13*	*3935.48*	
60	60	45.34	2679.21	*3844.79*	*3890.13*	
61	61	45.32	2724.53	*3799.47*	*3844.79*	
62	62	45.32	2769.85	*3754.15*	*3799.47*	Centralizer
63	63	44.88	2814.73	*3709.27*	*3754.15*	
64	64	45.30	2860.03	*3663.97*	*3709.27*	
65	65	44.81	2904.84	*3619.16*	*3663.97*	
66	66	44.94	2949.78	*3574.22*	*3619.16*	Centralizer
67	67	45.30	2995.08	*3528.92*	*3574.22*	
68	68	45.31	3040.39	*3483.61*	*3528.92*	
69	69	44.89	3085.28	*3438.72*	*3483.61*	
70	70	44.85	3130.13	*3393.87*	*3438.72*	Centralizer
71	71	44.42	3174.55	*3349.45*	*3393.87*	
72	72	44.49	3219.04	*3304.96*	*3349.45*	
73	73	44.37	3263.41	*3260.59*	*3304.96*	
74	74	44.88	3308.29	*3215.71*	*3260.59*	Centralizer
75	75	45.31	3353.60	*3170.40*	*3215.71*	
76	76	45.29	3398.89	*3125.11*	*3170.40*	
77	77	45.34	3444.23	*3079.77*	*3125.11*	
78	78	45.31	3489.54	*3034.46*	*3079.77*	Centralizer
79	79	45.32	3534.86	*2989.14*	*3034.46*	
80	80	45.30	3580.16	*2943.84*	*2989.14*	
81	81	44.22	3624.38	*2899.62*	*2943.84*	
82	82	44.52	3668.90	*2855.10*	*2899.62*	Centralizer
83	83	45.33	3714.23	*2809.77*	*2855.10*	
84	84	45.31	3759.54	*2764.46*	*2809.77*	
85	85	44.93	3804.47	*2719.53*	*2764.46*	
86	86	44.69	3849.16	*2674.84*	*2719.53*	Centralizer
87	87	42.25	3891.41	*2632.59*	*2674.84*	
88	88	41.37	3932.78	*2591.22*	*2632.59*	
89	89	42.08	3974.86	*2549.14*	*2591.22*	
90	90	44.49	4019.35	*2504.65*	*2549.14*	Centralizer
91	91	44.94	4064.29	*2459.71*	*2504.65*	
92	92	44.85	4109.14	*2414.86*	*2459.71*	
93	93	45.33	4154.47	*2369.53*	*2414.86*	
94	94	45.34	4199.81	*2324.19*	*2369.53*	Centralizer
95	95	45.33	4245.14	*2278.86*	*2324.19*	
96	96	45.29	4290.43	*2233.57*	*2278.86*	
97	97	45.29	4335.72	*2188.28*	*2233.57*	
98	98	45.31	4381.03	*2142.97*	*2188.28*	Centralizer
99	99	45.30	4426.33	*2097.67*	*2142.97*	
100	100	45.29	4471.62	*2052.38*	*2097.67*	
101	101	45.34	4516.96	*2007.04*	*2052.38*	
102	102	45.30	4562.26	*1961.74*	*2007.04*	Centralizer
103	103	44.63	4606.89	*1917.11*	*1961.74*	
104	104	44.86	4651.75	*1872.25*	*1917.11*	
105	105	44.94	4696.69	*1827.31*	*1872.25*	
106	106	45.30	4741.99	*1782.01*	*1827.31*	Centralizer
107	107	45.30	4787.29	*1736.71*	*1782.01*	
108	108	45.27	4832.56	*1691.44*	*1736.71*	
109	109	45.27	4877.83	*1646.17*	*1691.44*	
110	110	45.29	4923.12	*1600.88*	*1646.17*	Centralizer
111	111	45.30	4968.42	*1555.58*	*1600.88*	
112	112	45.30	5013.72	*1510.28*	*1555.58*	
113	113	45.28	5059.00	*1465.00*	*1510.28*	
114	114	45.28	5104.28	*1419.72*	*1465.00*	Centralizer
115	115	45.30	5149.58	*1374.42*	*1419.72*	
116	116	43.66	5193.24	*1330.76*	*1374.42*	
117	117	44.93	5238.17	*1285.83*	*1330.76*	
118	118	45.33	5283.50	*1240.50*	*1285.83*	Centralizer

119	119	45.30	5328.80	*1195.20*	*1240.50*	
120	120	44.92	5373.72	*1150.28*	*1195.20*	
121	121	45.28	5419.00	*1105.00*	*1150.28*	
122	122	45.27	5464.27	*1059.73*	*1105.00*	Centralizer
123	123	45.25	5509.52	*1014.48*	*1059.73*	
124	124	45.26	5554.78	*969.22*	*1014.48*	
125	125	44.89	5599.67	*924.33*	*969.22*	
126	126	44.88	5644.55	*879.45*	*924.33*	Centralizer
127	127	45.30	5689.85	*834.15*	*879.45*	
128	128	45.30	5735.15	*788.85*	*834.15*	
129	129	44.89	5780.04	*743.96*	*788.85*	
130	130	45.30	5825.34	*698.66*	*743.96*	Centralizer
131	131	45.30	5870.64	*653.36*	*698.66*	
132	132	43.63	5914.27	*609.73*	*653.36*	
133	133	45.28	5959.55	*564.45*	*609.73*	
134	134	43.19	6002.74	*521.26*	*564.45*	Centralizer
135	135	43.32	6046.06	*477.94*	*521.26*	
136	136	43.18	6089.24	*434.76*	*477.94*	
137	137	44.02	6133.26	*390.74*	*434.76*	
138	138	45.38	6178.64	*345.36*	*390.74*	Centralizer
139	139	37.71	6216.35	*307.65*	*345.36*	
140	140	45.33	6261.68	*262.32*	*307.65*	
141	141	45.33	6307.01	*216.99*	*262.32*	
142	142	43.25	6350.26	*173.74*	*216.99*	Centralizer
143	143	42.22	6392.48	*131.52*	*173.74*	
144	144	45.37	6437.85	*86.15*	*131.52*	
145	145	45.32	6483.17	*40.83*	*86.15*	Swage up here, 5' up on this jt
146	146	45.08	6528.25	*-4.25*	*40.83*	
147	147	45.34	6573.59	*0.00*	*0.00*	
148	148	45.35	6618.94	*0.00*	*0.00*	
149	149	45.34	6664.28	*0.00*	*0.00*	Damaged box this jt is on the ground
150	150	45.34	6709.62	*0.00*	*0.00*	
151	151	45.01	6754.63	*0.00*	*0.00*	
152	152		0.00	*0.00*	*0.00*	
153	153		0.00	*0.00*	*0.00*	
154	154		0.00	*0.00*	*0.00*	
155	155		0.00	*0.00*	*0.00*	
156	156		0.00	*0.00*	*0.00*	
157	157		0.00	*0.00*	*0.00*	
158	158		0.00	*0.00*	*0.00*	
159	159		0.00	*0.00*	*0.00*	
160	160		0.00	*0.00*	*0.00*	
161	161		0.00	*0.00*	*0.00*	
162	162		0.00	*0.00*	*0.00*	
163	163		0.00	*0.00*	*0.00*	
164	164		0.00	*0.00*	*0.00*	
165	165		0.00	*0.00*	*0.00*	
166	166		0.00	*0.00*	*0.00*	
167	167		0.00	*0.00*	*0.00*	
168	168		0.00	*0.00*	*0.00*	
169	169		0.00	*0.00*	*0.00*	
170	170		0.00	*0.00*	*0.00*	
171	171		0.00	*0.00*	*0.00*	
172	172		0.00	*0.00*	*0.00*	
173	173		0.00	*0.00*	*0.00*	
174	174		0.00	*0.00*	*0.00*	
175	175		0.00	*0.00*	*0.00*	
176	176		0.00	*0.00*	*0.00*	
177	177		0.00	*0.00*	*0.00*	
178	178		0.00	*0.00*	*0.00*	
179	179		0.00	*0.00*	*0.00*	
180	180		0.00	*0.00*	*0.00*	
181	181		0.00	*0.00*	*0.00*	
182	182		0.00	*0.00*	*0.00*	
183	183		0.00	*0.00*	*0.00*	

ATTACHMENT C
Maljamar AGI #2 - 2nd Intermediate Casing:

- **Cement Lab Results**
- **Cement Job Summary Report**
- **Photograph of Circulated Cement**

HALLIBURTON

Permian Basin, Artesia

Lab Results- 1st Stage Lead

Job Information

Request/Slurry	2280448/3	**Rig Name**	Canelson 431	**Date**	10/FEB/2016
Submitted By	Dillon Briers	**Job Type**	Intermediate Casing	**Bulk Plant**	
Customer	Running Horse Production	**Location**	Lea	**Well**	Maljamar AGI #2

Well Information

Casing/Liner Size	9.625 in	**Depth MD**	6500 ft	**BHST**	128 °F
Hole Size	12.25 in	**Depth TVD**	6500 ft	**BHCT**	98 °F

Cement Information - Lead Design

Conc	UOM	Cement/Additive
100	% BWOC	EconoCem HLC
5	% BWOW	NaCl (Sodium Chloride) Salt
3	lb/sk	Kol-Seal
0.125	lb/sk	Pol-E-Flake
0.5	% BWOC	HR-800

Cement Properties

Slurry Density	12.90	lbm/gal
Slurry Yield	1.88	ft3/sack
Water Requirement	10.13	gal/sack

Pilot Test Results Request ID 2280448/4

Thickening Time - ON-OFF-ON

Test Temp (°F)	Pressure (psi)	Reached in (min)	70 Bc (hh:min)	Static Period (min)
95	2700	17	5:24	15

API Rheology

Temp (°F)	300	200	100	60	30	6	3
80	28	26	21	21	20	17	15

API Rheology

Temp (°F)	300	200	100	60	30	6	3	Cond Time (min)	Conditioning Temp (°F)
95	60	41	35	34	32	21	18	30	95

UCA Comp. Strength

End Temp (°F)	Pressure (psi)	50 psi (hh:mm)	500 psi (hh:mm)	8hr CS (psi)	12 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)	End CS (psi)	End Time (hrs)
121	3000	5:46	15:18	200	400	694	994	1159	72

HALLIBURTON

Permian Basin, Artesia

Lab Results- 1st Stage Tail

Job Information

Request/Slurry	2297206/2	**Rig Name**	Canelson 431	**Date**	10/FEB/2016
Submitted By	Dillon Briers	**Job Type**	Intermediate Casing	**Bulk Plant**	
Customer	Running Horse Production	**Location**	Lea	**Well**	Maljamar AGI #2

Well Information

Casing/Liner Size	9.625 in	**Depth MD**	6500 ft	**BHST**	128 °F
Hole Size	12.25 in	**Depth TVD**	6500 ft	**BHCT**	98 °F

Cement Information - Tail Design

Conc	UOM	Cement/Additive
100	% BWOC	VersaCem C - 2% Gel
0.5	% BWOC	LAP-1 (Powdered Latex)
0.2	% BWOC	CFR-3 (PB)

Cement Properties

Slurry Density	14.40	lbm/gal
Slurry Yield	1.24	ft3/sack
Water Requirement	5.67	gal/sack

Pilot Test Results Request ID 2297206/2

Thickening Time - ON-OFF-ON

Test Temp (°F)	Pressure (psi)	Reached in (min)	70 Bc (hh:min)	Static Period (min)
98	3800	24	5:04	15

API Rheology

Temp (°F)	300	200	100	60	30	6	3
80	42	32	25	16	12	9	8

API Rheology

Temp (°F)	300	200	100	60	30	6	3	Cond Time (min)	Conditioning Temp (°F)
98	68	59	47	41	35	25	17	30	98

API Fluid Loss

Test Temp (°F)	Test Pressure (psi)	Test Time (min)	Meas. Vol.	Calculated FL (<30 min)	Conditioning time (min)	Conditioning Temp (°F)
98	1000	30	16	211.08	30	98

Free Fluid API 10B-2

Con. Temp (F)	Cond. Time (min)	Static T. (F)	Static time (min)	Incl. (deg)	% Fluid
98	30	80	120	90	0

UCA Comp. Strength

End Temp (°F)	Pressure (psi)	50 psi (hh:mm)	500 psi (hh:mm)	12 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)	End CS (psi)	End Time (hrs)
128	3000	5:20	12:15	490	826	1619	1639	48.5

HALLIBURTON

Permian Basin, Artesia

Lab Results- 2nd Stage Lead

Job Information

Request/Slurry	2280448/3	**Rig Name**	Canelson 431	**Date**	10/FEB/2016
Submitted By	Dillon Briers	**Job Type**	Intermediate Casing	**Bulk Plant**	
Customer	Running Horse Production	**Location**	Lea	**Well**	Maljamar AGI #2

Well Information

Casing/Liner Size	9.625 in	**Depth MD**	5200 ft	**BHST**	119°F
Hole Size	12.25 in	**Depth TVD**	5200 ft	**BHCT**	94 °F

Cement Information - Lead Design

Conc	UOM	Cement/Additive
100	% BWOC	EconoCem HLC
5	% BWOW	NaCl (Sodium Chloride) Salt
3	lb/sk	Kol-Seal
0.125	lb/sk	Pol-E-Flake
0.5	% BWOC	HR-800

Cement Properties

Slurry Density	12.90	lbm/gal
Slurry Yield	1.88	ft3/sack
Water Requirement	10.13	gal/sack

Pilot Test Results Request ID 2280448/4

Thickening Time - ON-OFF-ON

Test Temp (°F)	Pressure (psi)	Reached in (min)	70 Bc (hh:min)	Static Period (min)
95	2700	17	5:24	15

API Rheology

Temp (°F)	300	200	100	60	30	6	3
80	28	26	21	21	20	17	15

API Rheology

Temp (°F)	300	200	100	60	30	6	3	Cond Time (min)	Conditioning Temp (°F)
95	60	41	35	34	32	21	18	30	95

UCA Comp. Strength

End Temp (°F)	Pressure (psi)	50 psi (hh:mm)	500 psi (hh:mm)	8hr CS (psi)	12 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)	End CS (psi)	End Time (hrs)
121	3000	5:46	15:18	200	400	694	994	1159	72

HALLIBURTON

Permian Basin, Artesia

Lab Results- 2nd Stage Tail

Job Information

Request/Slurry	2299250/2	**Rig Name**	Canelson 431	**Date**	10/FEB/2016
Submitted By	Dillon Briers	**Job Type**	Intermediate Casing	**Bulk Plant**	
Customer	Running Horse Production	**Location**	Lea	**Well**	Maljamar AGI #2

Well Information

Casing/Liner Size	9.625 in	**Depth MD**	5200 ft	**BHST**	119°F
Hole Size	12.25 in	**Depth TVD**	5200 ft	**BHCT**	94 °F

Cement Information - Tail Design

Conc	UOM	Cement/Additive
100	% BWOC	Cemex Premium Plus C
6.37	gal/sack	Fresh Water
0.2	% BWOC	HR-800

Cement Properties

Slurry Density	14.8	lbm/gal
Slurry Yield	1.33	ft3/sack
Water Requirement	6.375	gal/sack

Pilot Test Results Request ID 2299250/2

Thickening Time, Request Test ID:33414075

Temp (°F)	Pressure (psi)	Batch Mix (min)	Reached in (min)	Start BC	70 Bc (hh:mm)	Termination Time	Termination BC
94	2800	0	17	5.7	04:06	04:16	87

UCA Comp. Strength, Request Test ID:33414076

End Temp (°F)	Pressure (psi)	50 psi (hh:mm)	500 psi (hh:mm)	1000 psi(hh:mm)	8hr CS (psi)	12 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)	End CS (psi)	End Time (hrs)
117	3000	2:54	5:26	8:29	948	1275	1699	2084	2101	49

API Rheology, Request Test ID:33421676

Temp (°F)	300	200	100	60	30	6	3	Cond Time (min)	PV/YP
80	33	28	22	19	16	12	10	0	21.99 / 13.25

API Rheology, Request Test ID:33421677

Temp (°F)	300	200	100	60	30	6	3	Cond Time (min)	Conditioning Temp (°F)	PV/YP
94	33	28	22	19	16	12	8	30	94	22.61 / 12.65

HALLIBURTON

Permian Basin, Artesia

Lab Results- 2nd Stage Tail

Job Information

Request/Slurry	2299250/2	**Rig Name**	Canelson 431	**Date**	10/FEB/2016
Submitted By	Dillon Briers	**Job Type**	Intermediate Casing	**Bulk Plant**	
Customer	Running Horse Production	**Location**	Lea	**Well**	Maljamar AGI #2

Well Information

Casing/Liner Size	9.625 in	**Depth MD**	5200 ft	**BHST**	119°F
Hole Size	12.25 in	**Depth TVD**	5200 ft	**BHCT**	94 °F

Cement Information - Tail Design

Conc	UOM	Cement/Additive
100	% BWOC	Cemex Premium Plus C
6.37	gal/sack	Fresh Water
0.2	% BWOC	HR-800

Cement Properties

Slurry Density	14.8	lbm/gal
Slurry Yield	1.33	ft3/sack
Water Requirement	6.375	gal/sack

Pilot Test Results Request ID 2299250/2

Thickening Time, Request Test ID:33414075

Temp (°F)	Pressure (psi)	Batch Mix (min)	Reached in (min)	Start BC	70 Bc (hh:mm)	Termination Time	Termination BC
94	2800	0	17	5.7	04:06	04:16	87

UCA Comp. Strength, Request Test ID:33414076

End Temp (°F)	Pressure (psi)	50 psi (hh:mm)	500 psi (hh:mm)	1000 psi(hh:mm)	8hr CS (psi)	12 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)	End CS (psi)	End Time (hrs)
117	3000	2:54	5:26	8:29	948	1275	1699	2084	2101	49

API Rheology, Request Test ID:33421676

Temp (°F)	300	200	100	60	30	6	3	Cond Time (min)	PV/YP
80	33	28	22	19	16	12	10	0	21.99 / 13.25

API Rheology, Request Test ID:33421677

Temp (°F)	300	200	100	60	30	6	3	Cond Time (min)	Conditioning Temp (°F)	PV/YP
94	33	28	22	19	16	12	8	30	94	22.61 / 12.65

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HALLIBURTON

iCem Service

RED WILLOW PRODUCTION CO EBUS

For:

Date: Tuesday, February 16, 2016

2

Case 1

Sincerely,

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 374142	**Ship To #:** 3674002	**Quote #:** 0022155876	**Sales Order #:** 0903113612
Customer: RUNNING HORSE PRODUCTION CO LLC -		**Customer Rep:**	
Well Name: MALJAMAR AGI	**Well #:** 2		**API/UWI #:** 30-025-42628-00
Field: AGI	**City (SAP):** MALJAMAR	**County/Parish:** LEA	**State:** NEW MEXICO
Legal Description: 21-17S-32E-400FSL-2100FEL			
Contractor:		**Rig/Platform Name/Num:** Canelson 431	
Job BOM: 7522			
Well Type: INJECTION			
Sales Person: HALAMERICA\HBAQ995		**Srvc Supervisor:** HEBER GONZALEZ	

Job

Formation Name					
Formation Depth (MD)	**Top**		**Bottom**		
Form Type			**BHST**		
Job depth MD	6500ft		**Job Depth TVD**		
Water Depth			**Wk Ht Above Floor**		
Perforation Depth (MD)	**From**		**To**		

Well Data

Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing		13.375	12.515	61	BTC	J-55	0	2550		
Casing		9.625	8.835	40		HCK-55	0	6500		
Open Hole Section			12.25				2550	6500		

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625			6500		**Top Plug**	9.625		HES
Float Shoe	9.625					**Bottom Plug**	9.625		HES
Float Collar	9.625					**SSR plug set**	9.625		HES
Insert Float	9.625					**Plug Container**	9.625		HES
Stage Tool	9.625					**Centralizers**	9.625		HES

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Gel Spacer	Gel Spacer	20	bbl	8.4				
2.50 lbm/bbl		CHEM,FDP-S1050-12, BULK BAG (102175420)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	EconoCem - HLC	ECONOCEM (TM) SYSTEM	100	sack	12.9	1.895		5	9.96

3 lbm	KOL-SEAL, 50 LB BAG (100064232)
0.1250 lbm	POLY-E-FLAKE (101216940)
0.50 %	HR-800, 50 LB SACK (101619742)
5 %	SALT, BULK (100003695)

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	VersaCem - C	VERSACEM (TM) SYSTEM	420	sack	14.4	1.217		5	5.38
0.50 %		LAP-1 (100012766)							
0.20 %		CFR-3, W/O DEFOAMER, 50 LB SK (100003653)							

Cement Left In Pipe	Amount	40 ft	Reason	Shoe Joint

Fluid Data

Stage/Plug #: 2

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Super Flush 101	Super Flush 101	50	Gal	10			5	
500 gal/Mgal		FRESH WATER							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	EconoCem - HLC	ECONOCEM (TM) SYSTEM	1340	sack	12.9	1.871		5	9.69
0.1250 lbm		POLY-E-FLAKE (101216940)							
0.50 %		HR-800, 50 LB SACK (101619742)							
5 %		SALT, BULK (100003695)							
3 lbm		KOL-SEAL, 50 LB BAG (100064232)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Premium Plus - C	Premium Plus Cement	100	sack	14.8	1.328		5	6.34
94 lbm		CMT - PREMIUM PLUS - CLASS C REG OR TYPE III, BULK (100012205)							
6.34 Gal		FRESH WATER							
0.20 %		HR-800, 50 LB SACK (101619742)							

Cement Left In Pipe	Amount	40 ft	Reason	Shoe Joint

Mix Water:	pH ##	**Mix Water Chloride:**	## ppm	**Mix Water Temperature:**	## °F °C
Cement Temperature:	## °F °C	**Plug Displaced by:**	## lb/gal kg/m3 XXXX	**Disp. Temperature:**	## °F °C
Plug Bumped?	Yes/No	**Bump Pressure:**	#### psi MPa	**Floats Held?**	Yes/No
Cement Returns:	## bbl m3	**Returns Density:**	## lb/gal kg/m3	**Returns Temperature:**	## °F °C
Comment					

HALLIBURTON

Summary Report

Crew:

Job Start Date: 2/16/2016

Sales Order #: 0903113612
WO #: 0903113612
PO #: NA
AFE # :

Customer:	RUNNING HORSE PRODUCTION CO LLC -	**Field:**	AGI	**Job Type:**	CMT INTERMEDIATE CASING BOM
UWI / API Number:	30-025-42628-00	**County/Parish:**	LEA	**Service Supervisor:**	
Well Name:	MALJAMAR AGI	**State:**	NEW MEXICO		
Well No:	2	**Latitude:**	32.813967		
		Longitude:	-103.769693	**Cust Rep Name:**	
		Sect / Twn / Rng:	21/17/32	**Cust Rep Phone#:**	

Remarks:

The Information Stated Herein Is Correct	Customer Representative Signature	Date
	Customer Representative Printed Name	

2.1 Job Event Log

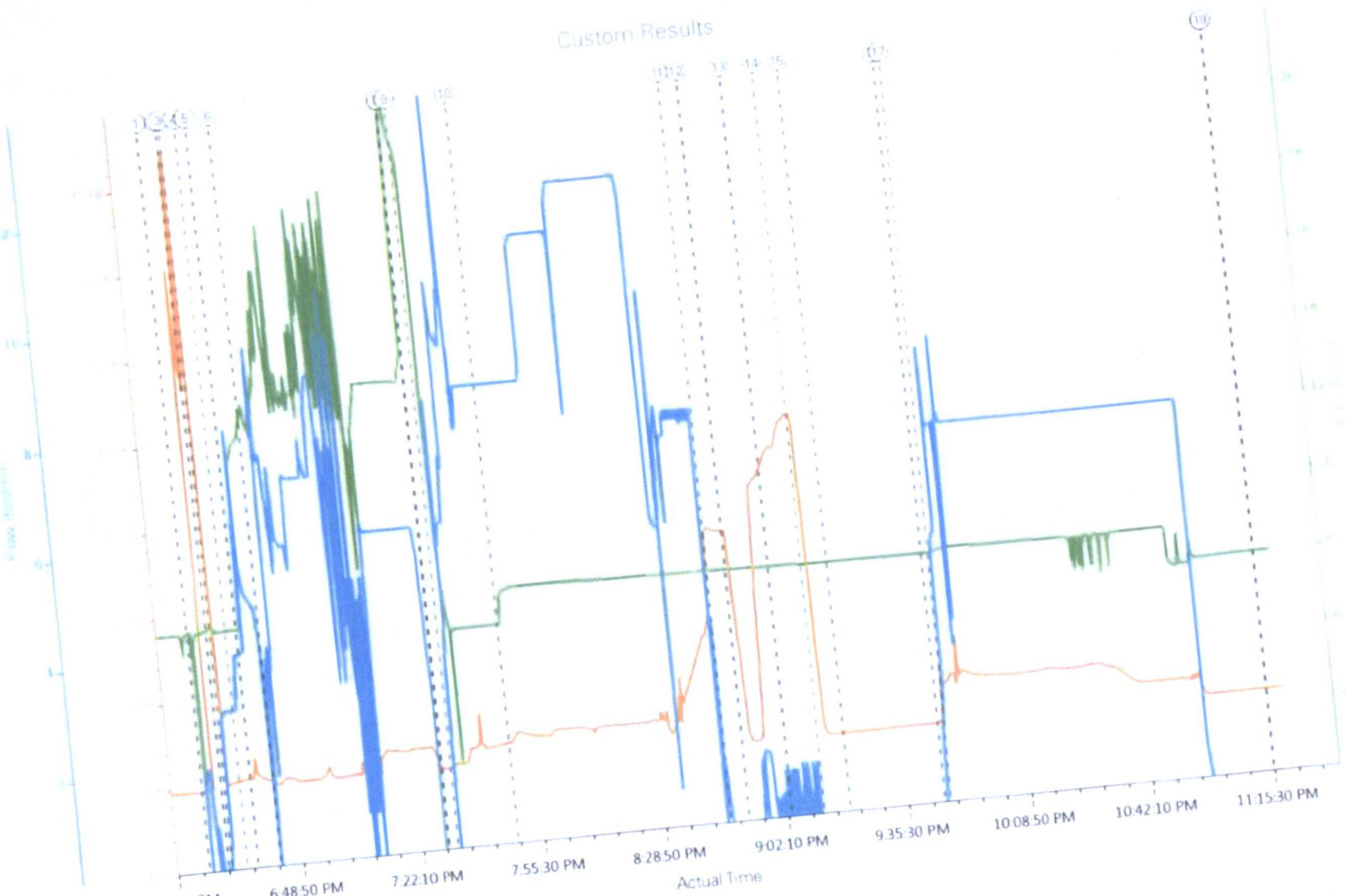
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Comments
Event	1	CALL OUT	Start Job	2/15/2016	11:24:45	COM5				
		ARRIVE TO YARD		2/15/2016	12:00:00					
		ARRIVE TO LOC		2/15/2016	13:30:00					RUNNING CASING
		PRE RIG UP METTING		2/15/2016	15:30:00					
		RIG UP		2/15/2016	16:00:00					
		PRE JOB SAFETY METTING		2/15/2016	18:00:00					
Event	2	Test Lines	Test Lines	2/15/2016	18:29:49	COM5	3716.00	8.44	0.00	TEST HALLIBURTON LINES @ 3500 PSI
Event	3	Pump Spacer 1	Pump Spacer 1	2/15/2016	18:30:44	COM5	25.00	8.33	3.00	PUMPED 20 BBLS OF GEL SPACER
Event	4	Check Weight	Check weight	2/15/2016	18:34:49	COM5	51.00	8.36	3.00	CHECK CMT WEITH
Event	5	Pump Lead Cement	Pump Lead Cement	2/15/2016	18:37:38	COM5	75.00	8.35	4.00	PUMPED 100 SACKS OF LEAD CMT @ 12.9 PPG, 1.89 YIELD, 9.96 H20 = 33.4 BBLS
Event	6	Pump Tail Cement	Pump Tail Cement	2/15/2016	18:43:45	COM5	13.00	13.95	3.90	PUMPED 420 SACKS OF TAIL CMT @ 14.4 PPG, 1.22 YIELD,5.38 H20 =92 BBLS
Event	7	Clean Lines	Clean Lines	2/15/2016	19:30:16	COM5	7.00	21.59	0.00	
Event	8	Drop Plug	Drop Plug	2/15/2016	19:30:23	COM5	8.00	21.55	0.00	DROP FIRST HALLIBURTON PLUG
Event	9	Pump Displacement	Pump Displacement	2/15/2016	19:32:43	COM5	8.00	20.36	0.00	PUMPED 100 BBLS OF H20 TO DISPLACE CMT W/ RED DYE ON TANK 10

Event	10	Pump Displacement	Pump Displacement	2/15/2016	19:49:12	COM5	125.00	7.87	8.50	PUMPED 392 BBLS OF MUD TO FINISH DISPLACEMENT
Event	11	Bump Plug	Bump Plug	2/15/2016	20:47:23	COM5	1252.00	8.74	0.00	PLUG BUMP @ 840 PSI AND PRESSURE UP 500 PSI OVER
Event	12	Other	Other	2/15/2016	20:52:22	COM5	1161.00	8.71	0.00	INFLATE PACKER @ 1900 PSI
Event	13	Other	Other	2/15/2016	21:04:03	COM5	1635.00	8.72	0.00	
Event	14	Other	Other	2/15/2016	21:12:57	COM5	1745.00	8.67	0.00	
Event	15	Drop Ball	Drop Ball	2/15/2016	21:19:59	COM5	-2.00	8.67	0.00	DROP OPENNING TOOL AND WAIT 25 MIN. TO LAND
Event	16	Open Multiple Stage Cementer	Open Multiple Stage Cementer	2/15/2016	21:46:07	COM5	2.00	8.65	0.00	OPEN TOOL @ 330 PSI
Event	17	Circulate Well	Circulate Well	2/15/2016	21:47:52	COM5	229.00	8.71	5.00	CIRCULATE WELL W/ 430 BBLS OF WELL FLUID
Event	18	Other	Other	2/15/2016	23:16:10	COM5	24.00	7.91	0.00	60 BBLS OF CMT RETURN TO SURFACE =215 SACKS
Event	19	End Job	End Job	2/15/2016	23:16:19	COM5	24.00	7.91	0.00	

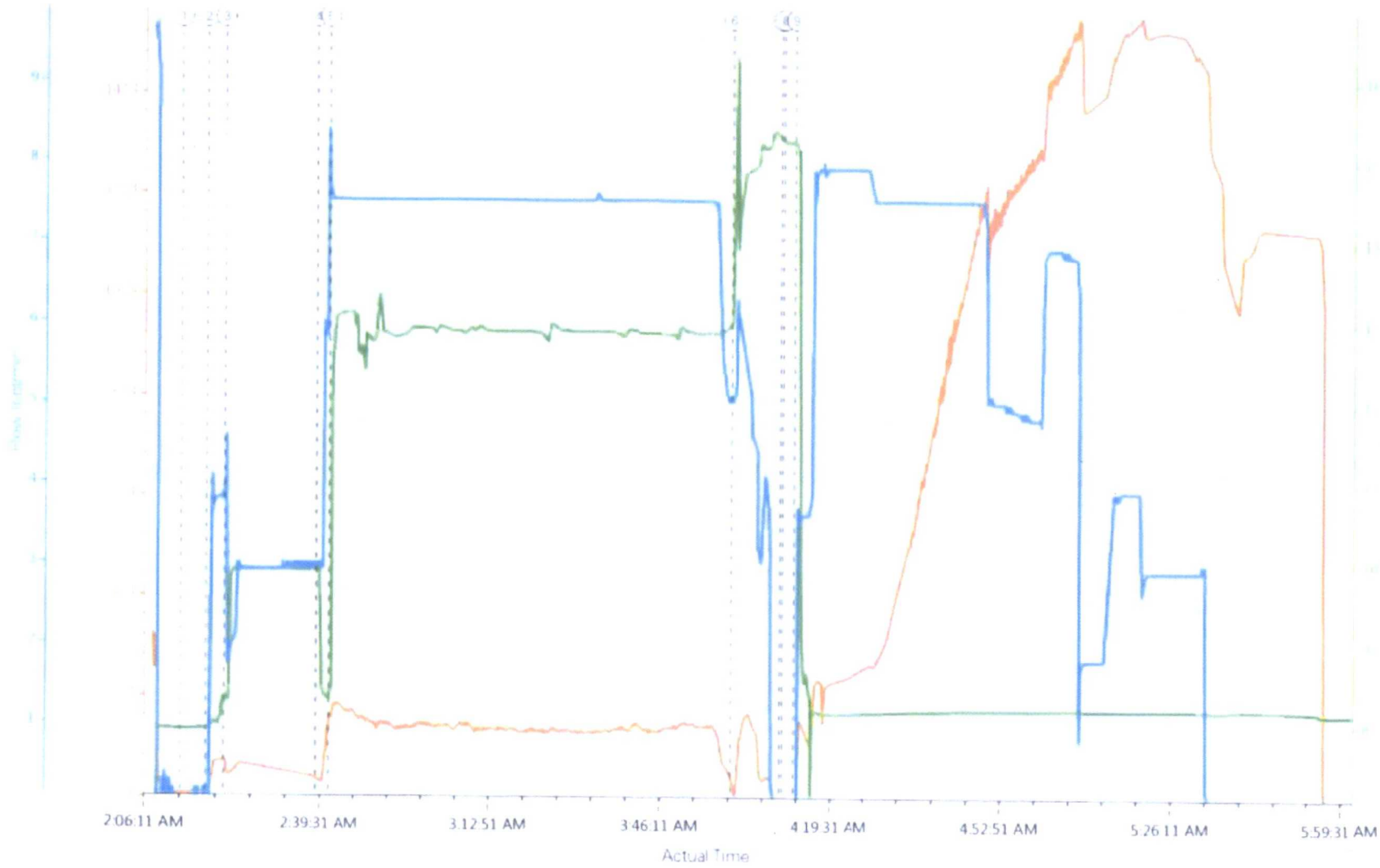
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Comments
Event	1	Start Job	Start Job	2/16/2016	02:13:42	COM5	20.00	7.92	0.00	
Event	2	Pump Spacer 1	Pump Spacer 1	2/16/2016	02:18:24	COM5	24.00	7.93	0.00	PUMPED 10 BBLS OF H20 W/RED DYE
Event	3	Pump Spacer 2	Pump Spacer 2	2/16/2016	02:21:48	COM5	59.00	8.32	1.70	PUMPED 50 BBLS OF SUPER FLUSH 101
Event	4	Pump Spacer 2	Pump Spacer 2	2/16/2016	02:39:25	COM5	50.00	9.89	2.90	PUMPED 10 BBLS OF H20 SPACER
Event	5	Pump Lead Cement	Pump Lead Cement	2/16/2016	02:41:58	COM5	201.00	12.56	7.50	PUMPED 1340 SACKS OF LEAD CMT @ 12.9 PPG, 1.87 YIELD, 9.69 H20 = 446 BBLS
Event	6	Pump Tail Cement	Pump Tail Cement	2/16/2016	04:00:43	COM5	25.00	14.27	5.20	PUMPED 100 SACKS OF TAIL CMT @ 14.8 PPG, 1.33 YIELD, 6.34 H20 = 24 BBLS
Event	7	Clean Lines	Clean Lines	2/16/2016	04:10:14	COM5	8.00	15.23	0.00	
	8	DROP PLUG	DROP PLUG	2/16/2016	04:10:50		00.00	8.33	0.00	DROP LAST 9 5/8 HALLIBURTON PLUG
		PUMP DISPLACEMENT		2/16/2016	04:12:00		8.00	8.33	8.00	PUMPED 401 BBLS OF H20 TO DISPLACE CMT
		OTHER		2/16/2016	05:27:00		1350.00	8.33	0.00	PUMPED THE CALCULATED VOLUMEN AND DID NOT BUMP PLUG
		OTHER		2/16/2016	05:29:00		1300.00	8.33	2.00	PUMPED 3 BBLS MORE BY COSTUMER REQUEST SND DID NOT BUMP PLUG
		OTHER		2/16/2016	05:32:00		1289.00	8.33	2.00	PUMPED 6 MORE BBLS BY COSTUMER REQUES AND ID

									NOT BUMP PLUG
		FLOATS		2/16/2016	06:00:00	1280.00	8.33	0.00	FLOATS DID NOT HOLD AND SHUT IN WELL FOR 4 HRS
		OTHER		2/16/2016	06:03:00				100 BBLS OF CMT RETURN TO SURFACE = 300 SAXCKS
		RIG DOWN		2/16/2016					PRE RIG DOWN METTING
		RIG DOWN		2/16/2016					RIG DOWN
		OTHER		2/16/2016					RIG DOWN COMPLETE
Event	8	END JOB	END JOB	2/16/2016	07:30:00				


Custom Results
6:15:30 PM
6:48:50 PM
7:22:10 PM
7:55:30 PM
8:28:50 PM
9:02:10 PM
9:35:30 PM
10:08:50 PM
10:42:10 PM
11:15:30 PM
Actual Time
1 Start Job
2 Test Lines
3 Pump Spacer 1
4 Check weight
5 Pump Lead Cement
6 Pump Tail Cement
7 Clean Lines
8 Drop Plug
9 Pump Displacement
10 Pump Displacement
11 Bump Plug
12 Other
13 Other
14 Other
Edit
HALLIBURTON

Custom Results



1 Start Job
2 Pump Spacer 1
3 Pump Spacer 2
4 Pump Spacer 2
5 Pump Lead Cement
6 Pump Tail Cement
7 Clean Lines
8 Drop Plug
9 Pump Displacement

HALLIBURTON

Edit

Photograph Documentation of Cement Circulation

B.O.P. TESTING

MONAHANS NIPPLE-UP SERVICE

P.O. BOX 1552
MONAHANS, TEXAS 79756
(432) 943-7643

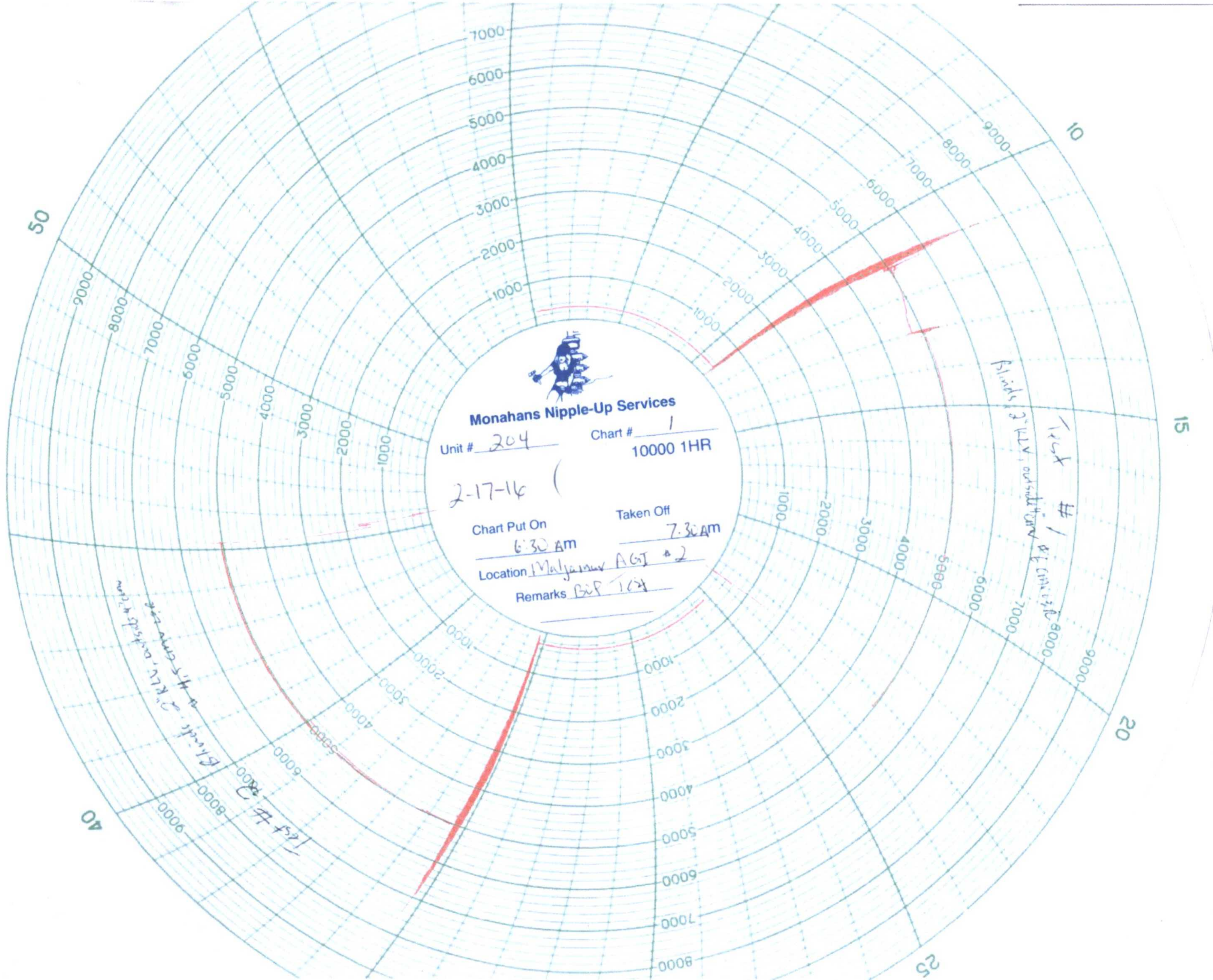
CUSTOMER Running Horse DATE 2-17-14

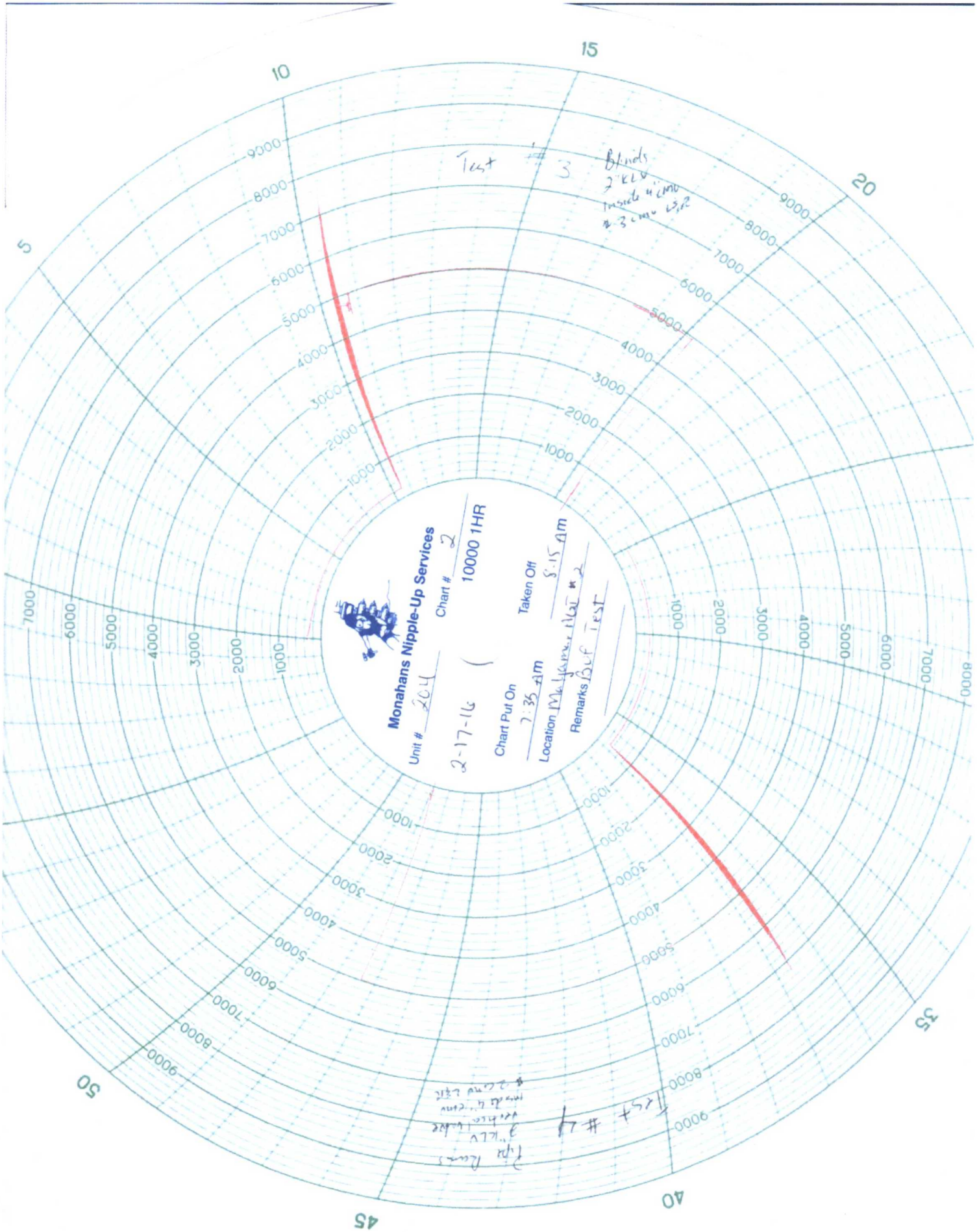
WELL NAME & NO. Wolfbone AGT #2

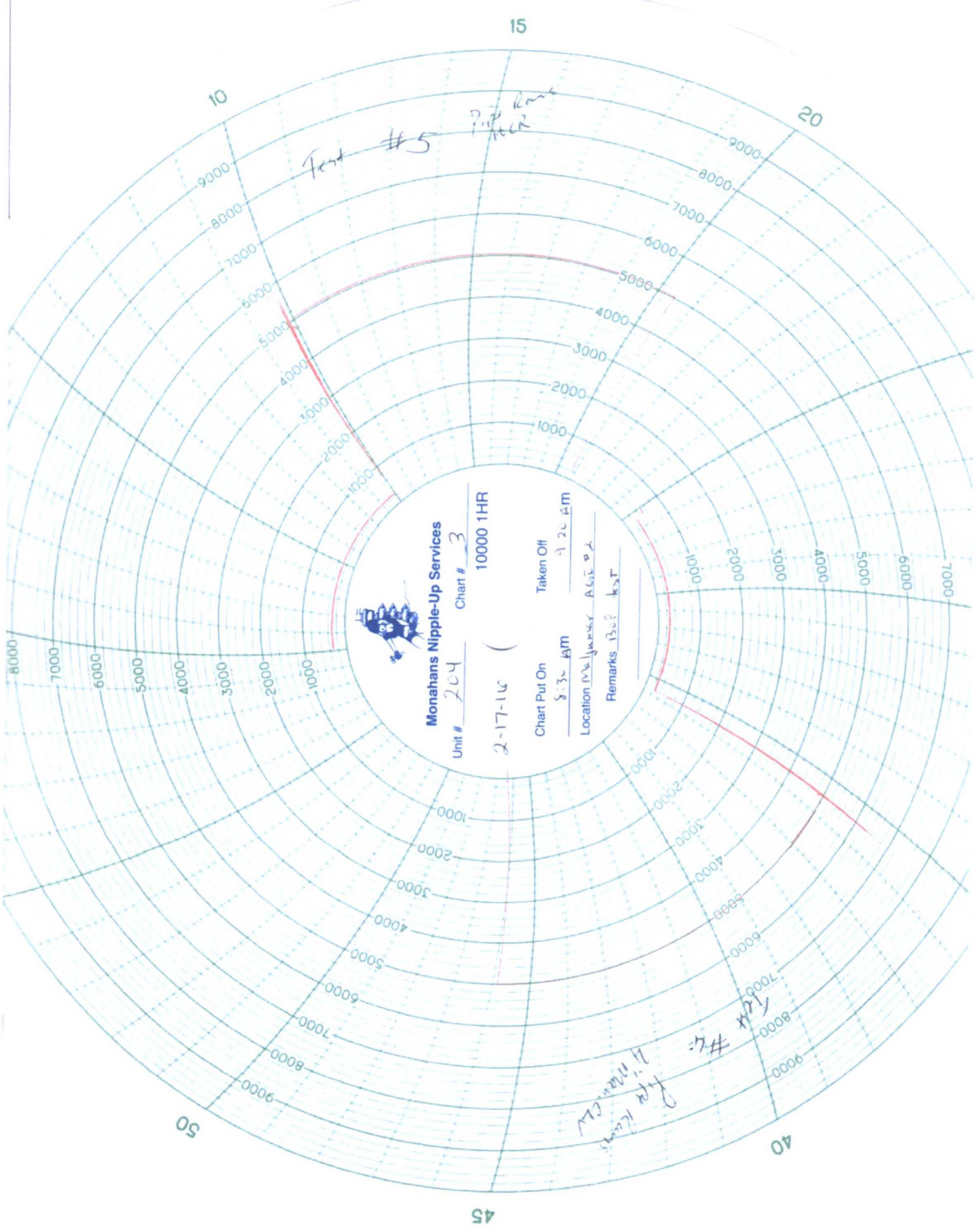
SERVICE REP. Mark Perkins REFER TO INVOICE NO. 41357T

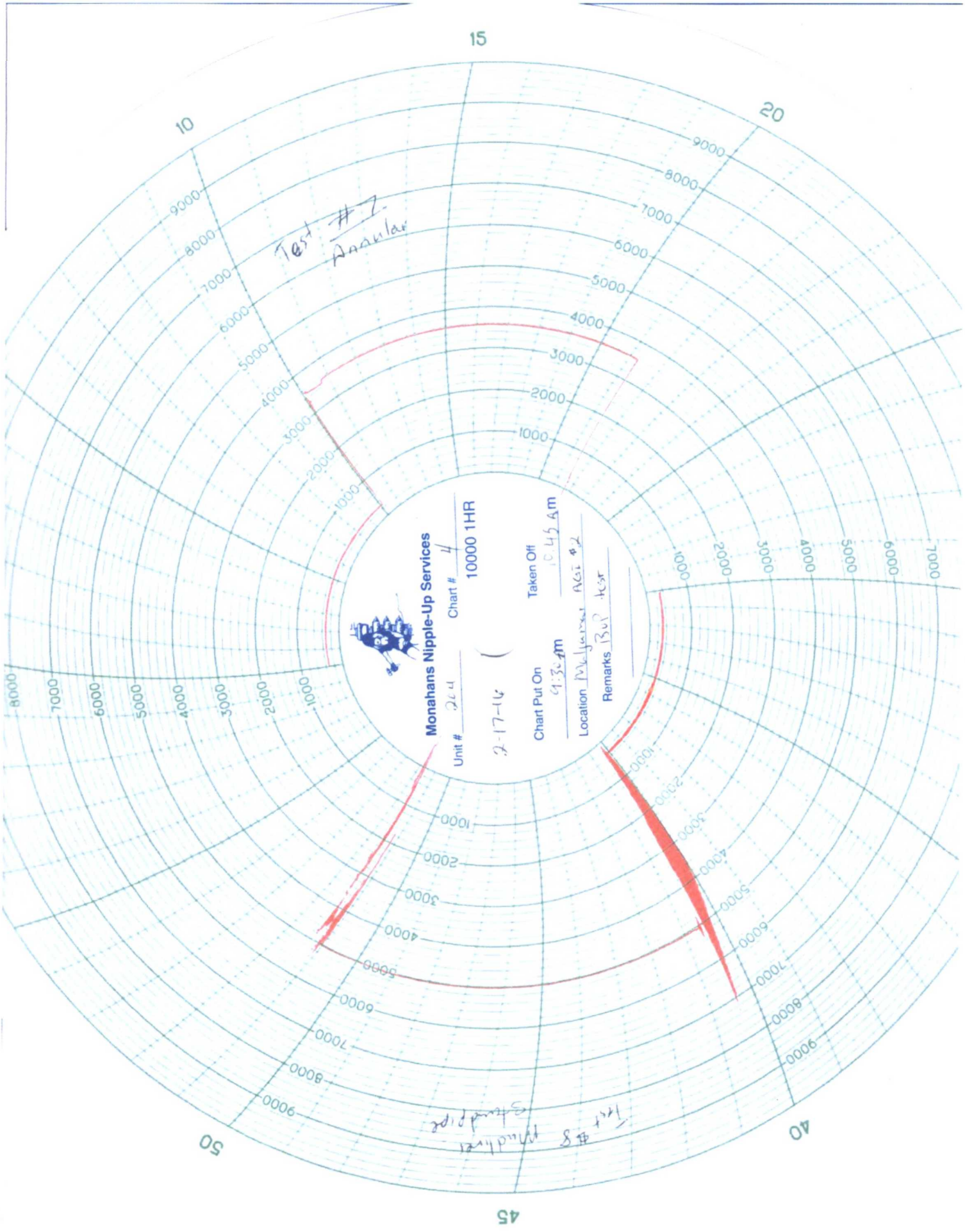
TEST & LEAKS

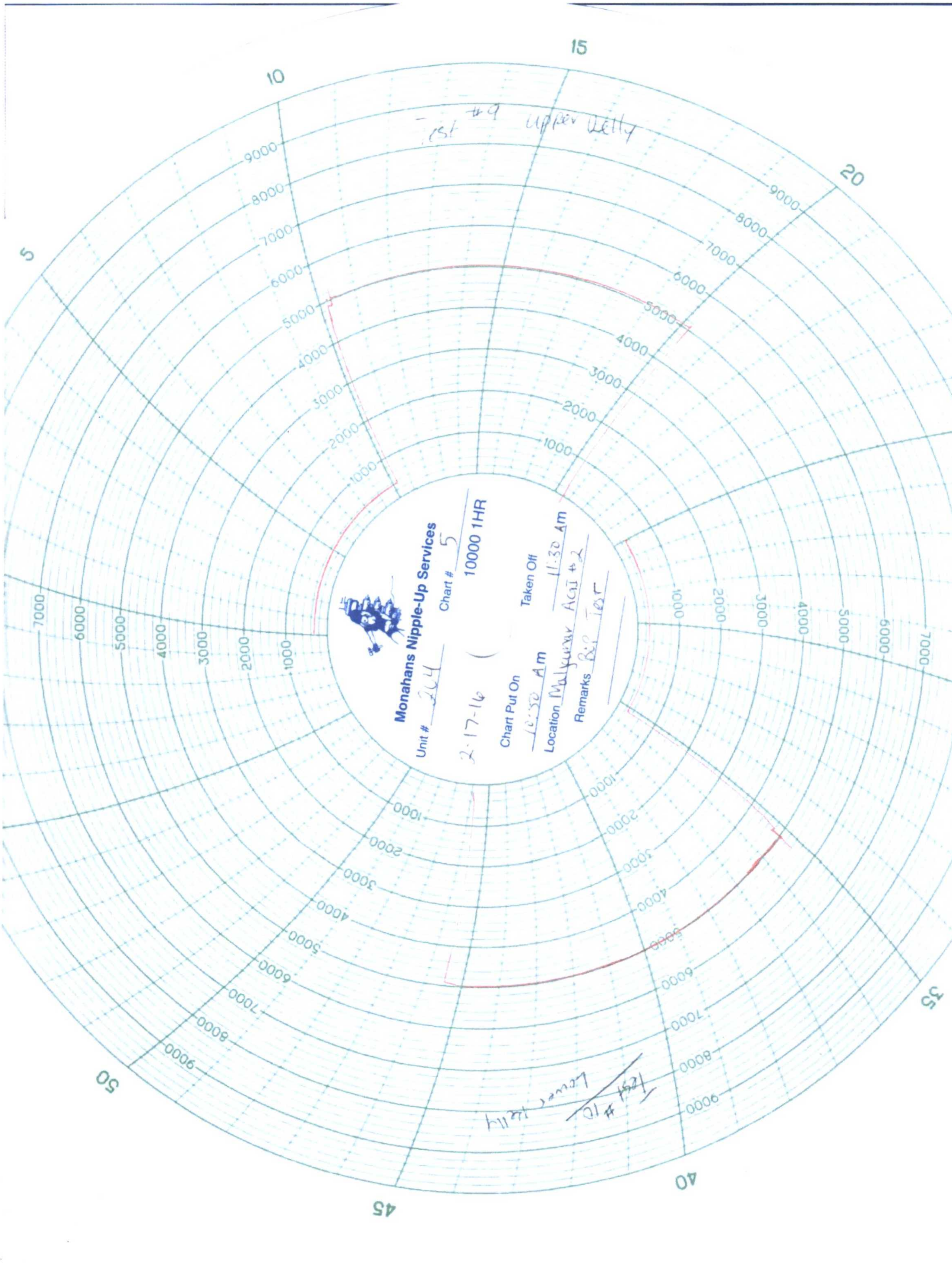
Test #1	Blinds, 2"KLV, outside 4"CMV, #1 CMV L&R	L250-H5000 (GT)
Test #2	Blinds, 2"KLV, outside 4"CMV, #4,5 CMV L&R	L250-H5000 (GT)
Test #3	Blinds, 2"KLV, inside 4"CMV, #3 CMV L&R	L250-H5000 (GT)
Test #4	Pipe Rams, 2"KLV, vertical valves, inside 4"CMV, #2 CMV L&R	L250-H5000 (GT)
Test #5	Pipe Rams, HCR, 2"KLV	L250-H5000 (GT)
Test #6	Pipe Rams, 4" Man. CLV, 2"KLV	L250-H5000 (GT)
Test #7	Annular	L250-H3500 (GT)
Test #8	Mudlines, Standpipe	L250-H5000 (GT)
Test #9	Upper Kelly	L250-H5000 (GT)
Test #10	Lower Kelly	L250-H5000 (GT)
Test #11	9 5/8 Casing - Bleed off to 1450 psi -	H1500 (30 min) (GT)
Test #12A	9 5/8 Casing (have float) - Bled off 150 psi 3 min - retest	H1500
12B	9 5/8 Casing (Bleed off 1500 psi 30 min - retest)	
12C	9 5/8 Casing	
Test #13	9 5/8 Casing (below float)	H1500
Test #14	FIT test	

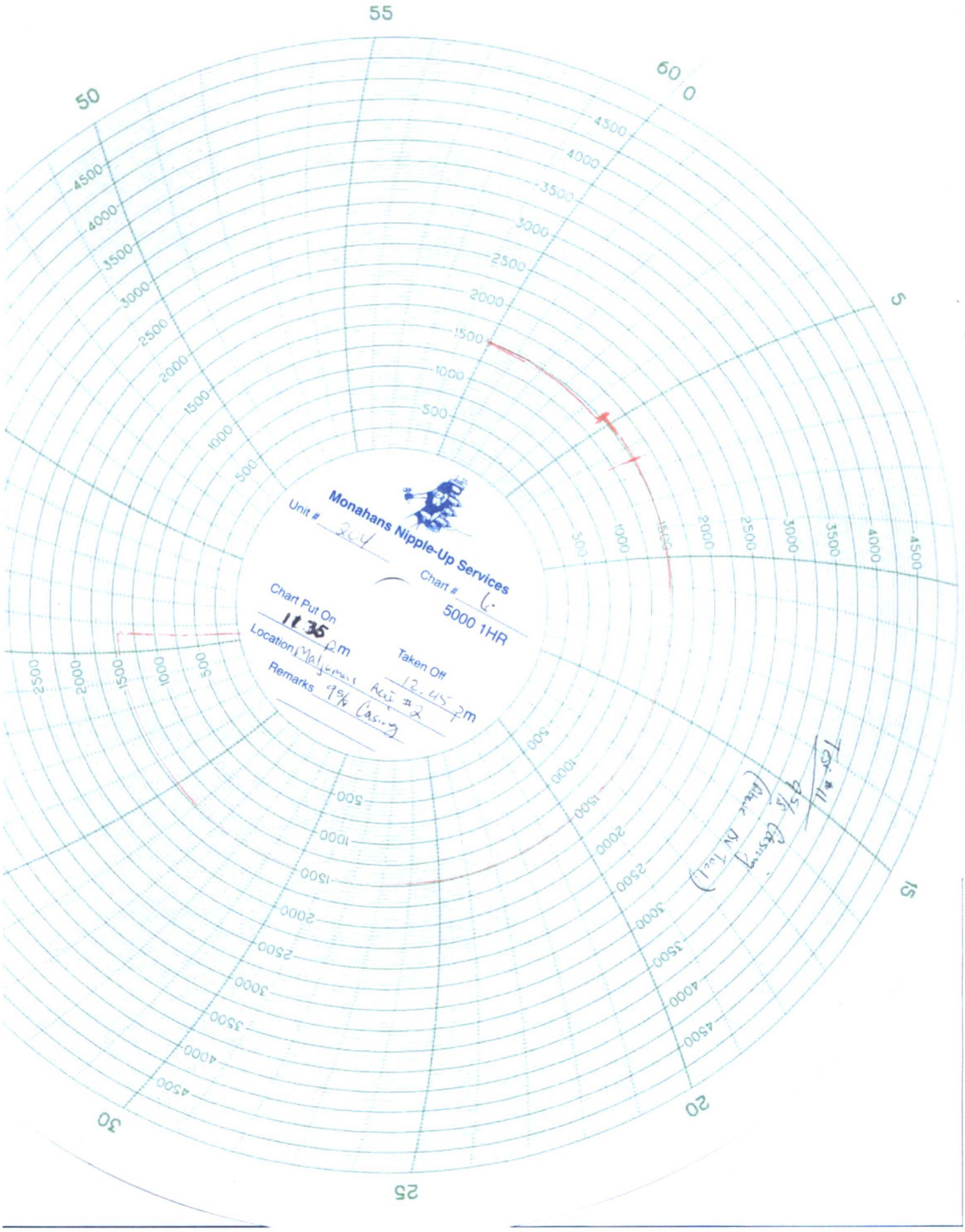

Monahans Nipple-Up Services
Unit # 204
Chart # 1
10000 1HR
2-17-16
Chart Put On 6:30 Am
Taken Off 7:30Am
Location Maljamar AGI #2
Remarks BOP Test
Test #1
Test #2

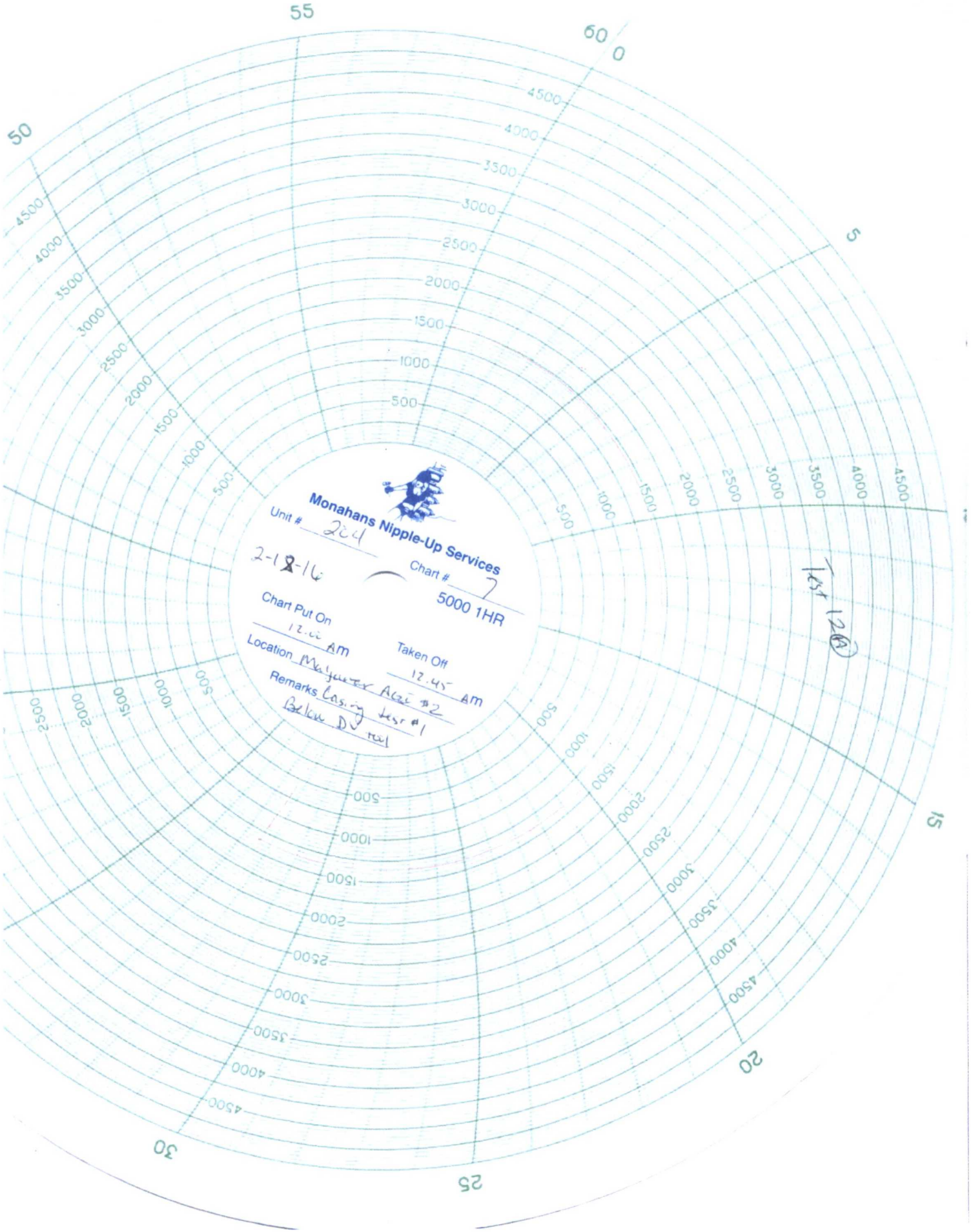

Monahans Nipple-Up Services
Unit # 204
Chart # 2
10000 1HR
2-17-16
Chart Put On 7:35 am
Taken Off 5:15 am
Location Mahamet Well #2
Remarks BOP Test
Test # 3
Blinds
Test # 4

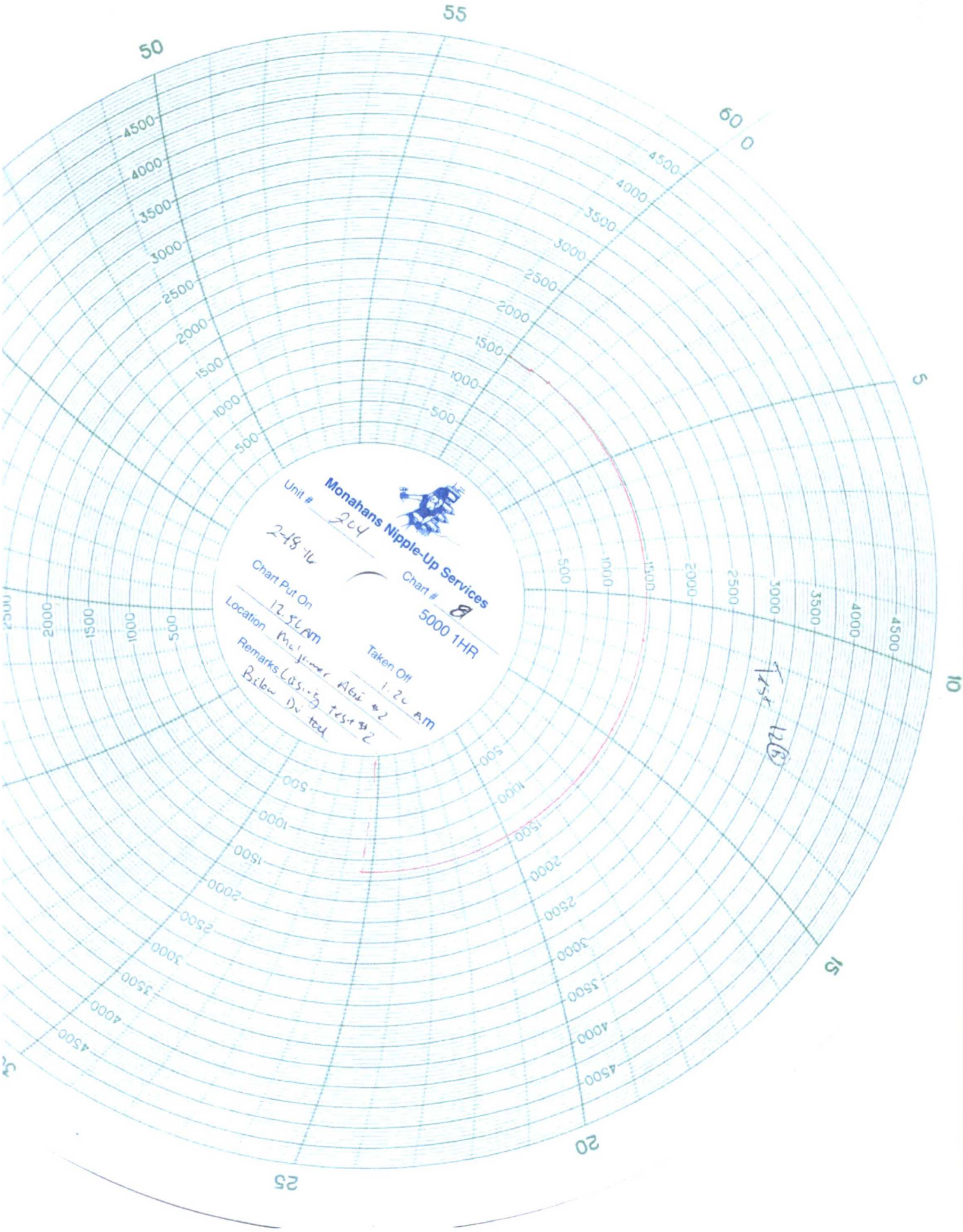

Monahans Nipple-Up Services
Unit # 204
Chart # 3
10000 1HR
2-17-14
Chart Put On
Taken Off
Location
Remarks
Test #5
15
10
20
40
45
50
1000
2000
3000
4000
5000
6000
7000
8000
9000

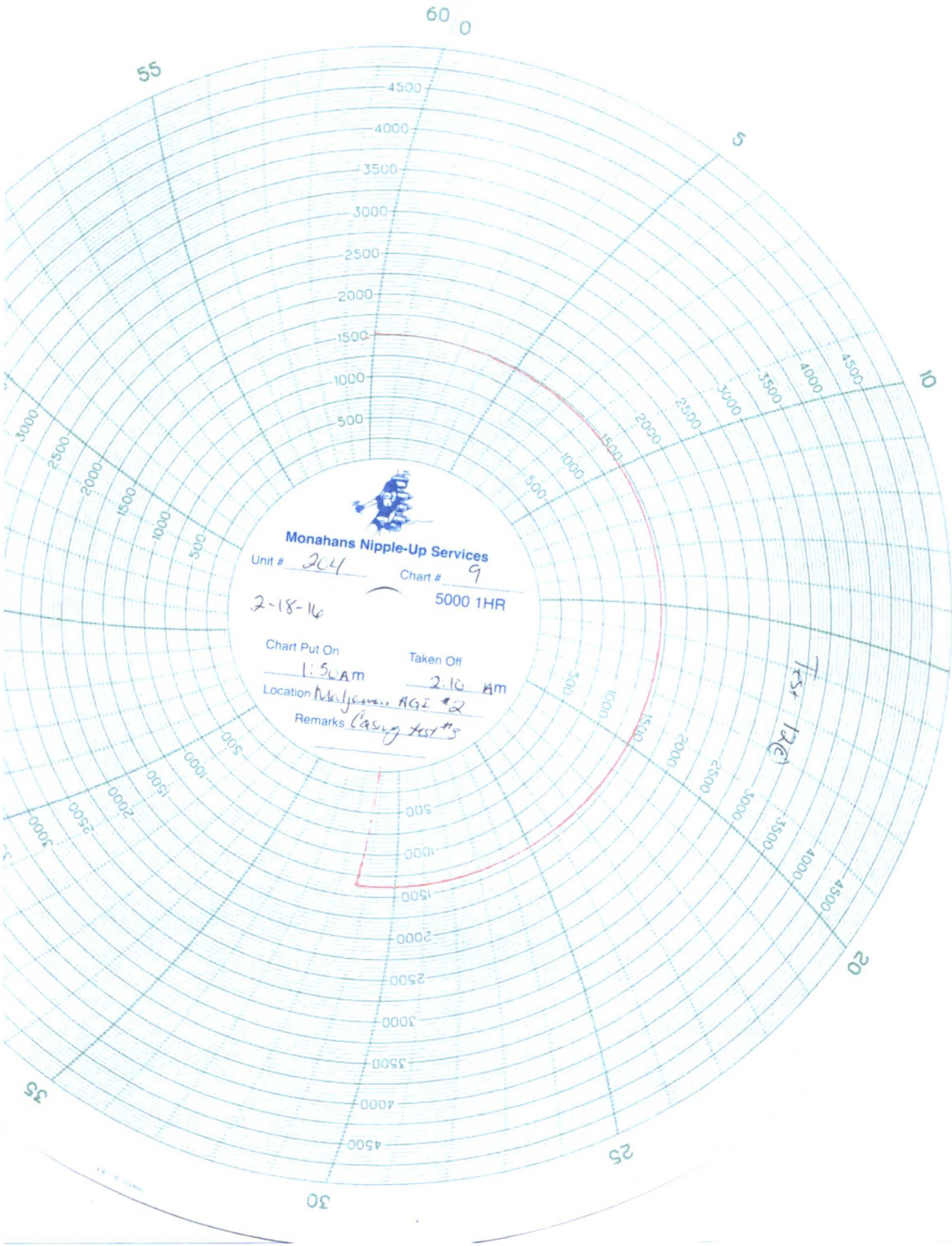

Test #7
Annular
Monahans Nipple-Up Services
Unit # 244
Chart # 4
10000 1HR
2-17-16
Chart Put On 01:30 pm
Taken Off 10:45 am
Location Midland Test #2
Remarks BOP Test
Test #8 Annular Shell Pipe
15
10
20
45
50
40

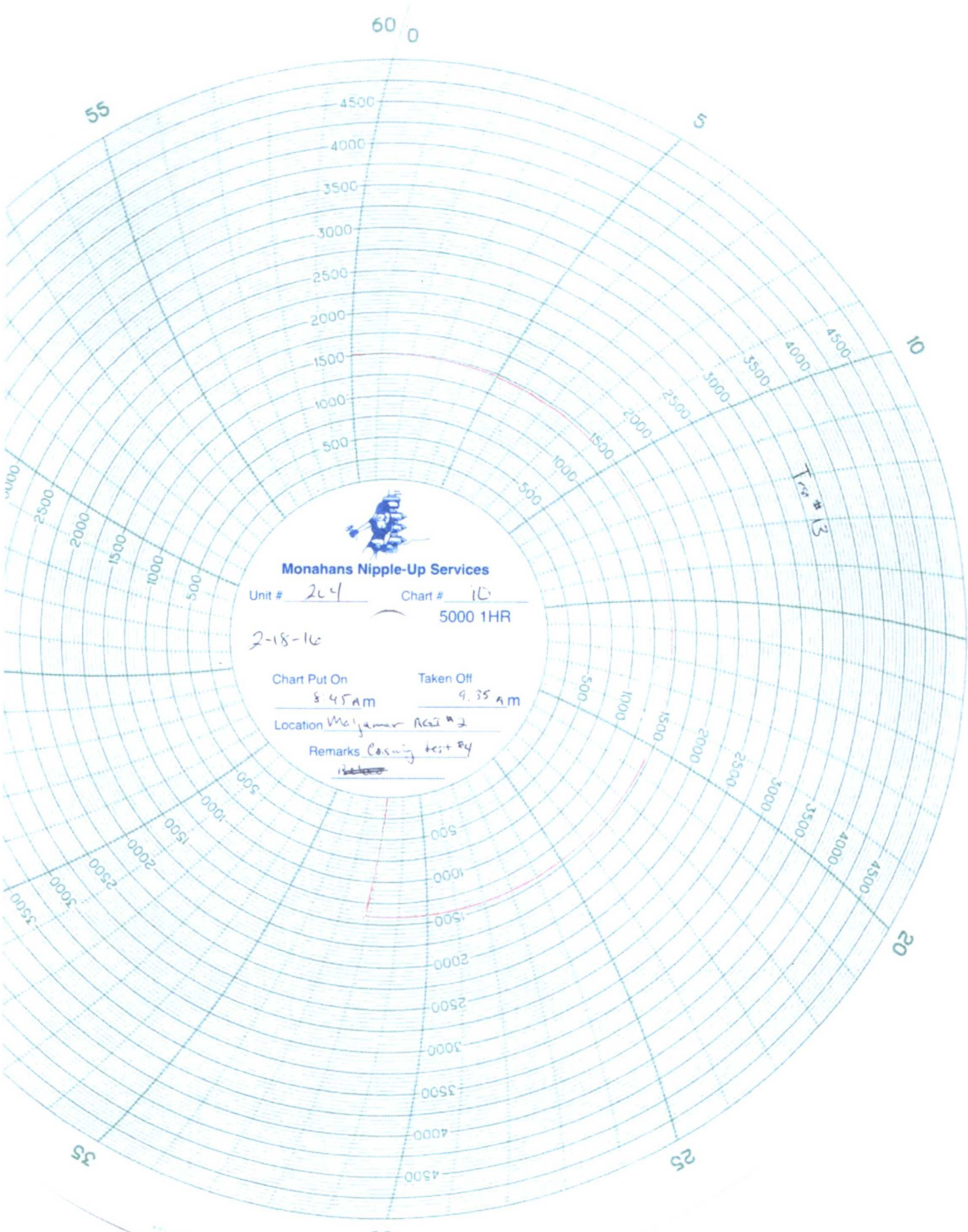

Monahans Nipple-Up Services
Unit # 204
Chart # 5
10000 1HR
2-17-16
Chart Put On 10:30 Am
Taken Off 11:30 Am
Location
Remarks BOP Test
Test #9 upper Kelly
Test #10 Lower Kelly

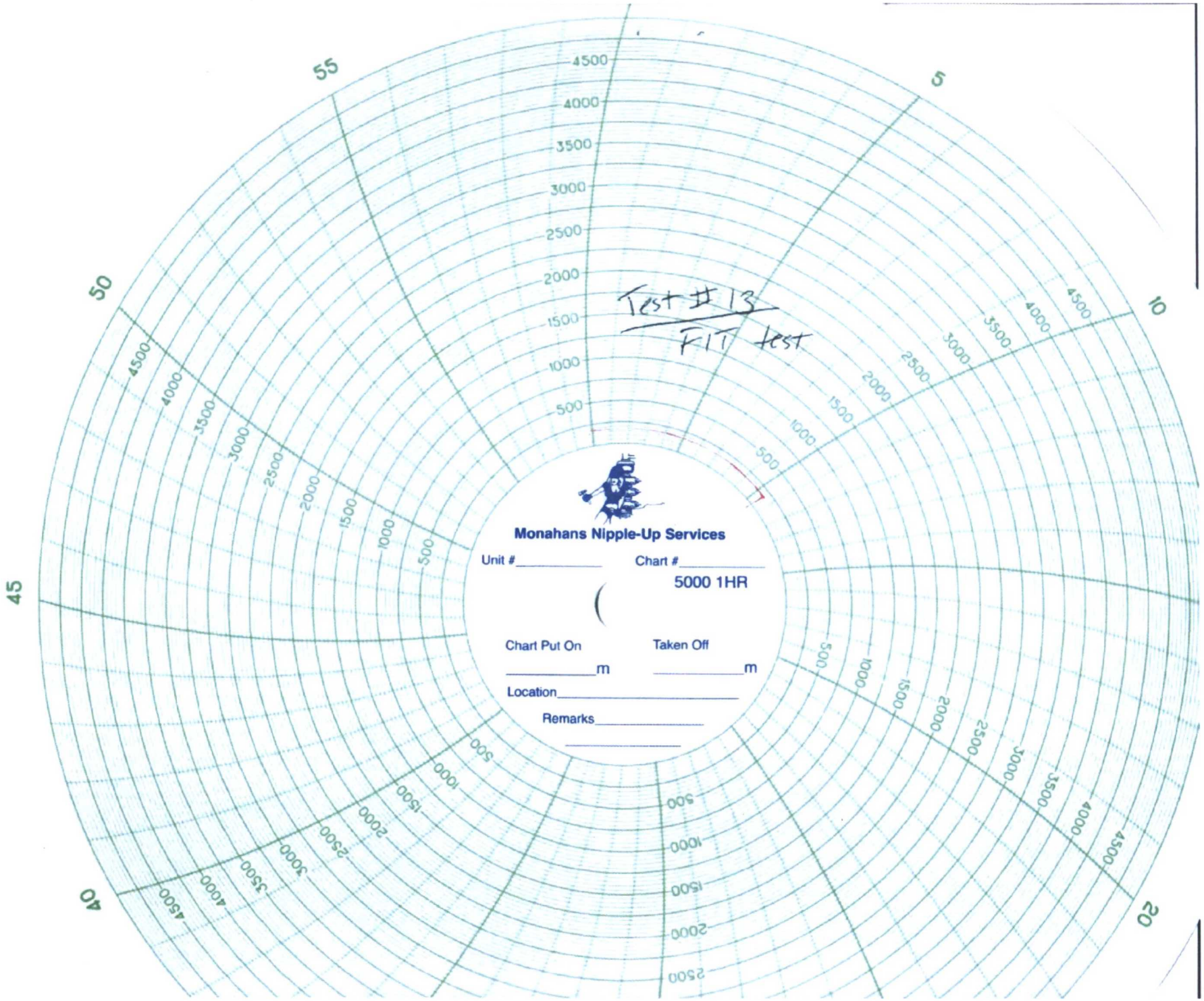

Monahans Nipple-Up Services
Unit # 204
Chart # 6.
5000 1HR
Chart Put On 11:35 am
Taken Off 12:45 pm
Location Mayfield Unit #2
Remarks 9⅝ Casing
Test #11 9⅝ Casing (Blue Ram Test)
55
60
0
5
15
20
25
30
50
500
1000
1500
2000
2500
3000
3500
4000
4500


Monahans Nipple-Up Services
Unit # 214
2-18-16
Chart # 7
5000 1HR
Chart Put On
12:11 AM
Taken Off
12:45 AM
Location Mayer Acc #2
Remarks Casing test #1
Below DV tool
Test 12@
0
5
15
20
25
30
50
55
60


Monahans Nipple-Up Services
Unit # 204
2-18-16
Chart Put On 12:30 AM
Location Multi-Power Well #2
Remarks Casing Test #2 Below Divited
Chart # 8
5000 1HR
Taken Off 1:20 AM
Test 12@
55
50
60
0
5
10
15
20
25
4500
4000
3500
3000
2500
2000
1500
1000
500


Monahans Nipple-Up Services
Unit # 204
Chart # 9
2-18-16
5000 1HR
Chart Put On
1:50 AM
Taken Off
2:10 AM
Location Mesquite AGI #2
Remarks Casing Test #3
Test (3)


Monahans Nipple-Up Services
Unit # 204
Chart # 16
5000 1HR
2-18-16
Chart Put On
8:45 AM
Taken Off
9:35 AM
Location Mojamar Rig #2
Remarks Casing test
Tool # 13


Test #13
FIT test
Monahans Nipple-Up Services
Unit #
Chart #
5000 1HR
Chart Put On
Taken Off
m
m
Location
Remarks

B.O.P. TESTING

MONAHANS NIPPLE-UP SERVICE

P.O. BOX 1552
MONAHANS, TEXAS 79756
(432) 943-7643

ACCUMULATOR TESTS: USABLE FLUID / PRE-CHARGE / CAPACITY

CUSTOMER Running Hare DATE 2-17-16

WELL NAME & NO. Mallard NGI #2

SERVICE REP. Mark Parkins REFER TO INVOICE NO. 11377 T

To Check — USABLE FLUID IN THE NITROGEN BOTTLES (III.A.2.c.i. or ii. or iii.)

- Make sure all rams and annular are open and if applicable HCR is closed.
- Ensure accumulator is pumped up to working pressure! **(Shut off all pumps)**

1. Open HCR Valve. (If applicable)
2. Close annular.
3. Close **all** pipe rams.
4. Open one set of the pipe rams to simulate closing the blind ram.
5. For 3 ram stacks, open the annular to achieve the 50±% safety factor. (5M and greater system)
6. **Record remaining pressure** 1500 **psi. Test Fails if pressure is lower than required.**
   - **a. { 950** psi for a 1500 psi system **}** **b. { 1200** psi for a 2000 & 3000 psi system **}**
7. If annular is closed, open it at this time and close HCR.

To Check — PRE-CHARGE ON BOTTLES OR SPHERICAL (III.A.2.d.)

- Start with manifold pressure at, or above, maximum acceptable pre-charge pressure:
  a. { 800 psi for a 1500 psi system **}** **b. { 1100** psi for a 2000 & 3000 psi system **}**

1. Open bleed line to the tank, slowly. **(Gauge needle will drop at the lowest bottle pressure)**
2. Close bleed line. Barely bump electric pump and see what pressure the needle jumps up to.
3. **Record pressure drop** 1000 **psi. Test Fails if pressure drops below minimum.**
   - **a. { 700** psi for a 1500 psi system **}** **b. { 900** psi for a 2000 & 3000 psi system **}**

To Check — THE CAPACITY OF THE ACCUMULATOR PUMPS (III.A.2.f.)

- Isolate the accumulator bottles or spherical from the pumps & manifold.
- Open the bleed off valve to the tank, { manifold psi should go to **O** psi } close bleed valve.

1. Open the HCR valve, { if applicable }
2. Close annular.
3. With **pumps** only, time how long it takes to regain the required manifold pressure.
4. **Record elapsed time** 1:38 **. Test Fails if it takes over 2 minutes.**
   - **a. { 950** psi for a 1500 psi system **}** **b. { 1200** psi for a 2000 & 3000 psi system **}**

Accumulator working pressure rating	Minimum acceptable operating pressure	Desired precharge pressure	Maximum acceptable precharge pressure	Minimum acceptable precharge pressure
1,500 psi	1,500 psi	750 psi	800 psi	700 psi
2,000 psi	2,000 psi	1,000 psi	1,100 psi	900 psi
3,000 psi	3,000 psi	1,000 psi	1,100 psi	900 psi

Usable Fluid = ½ of bottle volume. { 11 gal. = 5.5 gal } { 10 gal. = 5 gal. } { 80 gal. sphere = 40 gal. }

Reservoir cap: Heigth 36 **x Length** 128 **x Width** 14 **x 0.004329 =** 279.27 **Gal.**

7.75 gal/ft 36 inch = 31.03 usable fluid

Latham Printing - (432) 333-1292

ATTACHMENT E
Maljamar AGI #2 - 2nd Intermediate Casing:

- **Halliburton Cement Bond Log**