

INDEPTH PRODUCTION SOLUTIONS INJECTION PROFILE



Indepth HDD™

COMPANY NAME:

WELL NAME:

COUNTY:

STATE: Texas

DATE: July, 2024



TABLE OF CONTENTS

Company:

Test: Injection Profile

Date:

Well:

Survey: Injecting/SI

INTRODUCTION	1
OBJECTIVE / OBSERVATIONS	1
RESULTS	1
INTERVAL SUMMARY	1
OPERATIONS LOG	2
INDEPTH WELL PERFORMANCE MONITOR	3
LOG PRESENTATIONS	4
EVALUATION PLOT	5
INTERPRETATION PLOT	6
INJECTION LOG DATA	7
SHUT IN VS INJECTION TEN	8
LOG ANALYSIS RESULTS	9
ZONE CONTRIBUTIONS (SURFACE CONDITIONS)	10
ZONE CONTRIBUTIONS (RES CONDITIONS)	11
SPINNER CALIBRATION	12
PVT	13
JOB NOTES	14
WELL DIAGRAM	15
WELL DATA	16
WELL SITE IMAGE	17
DISCLAIMER	18



EXECUTIVE SUMMARY - RESULTS

Company:

Test: Injection Profile

Date:

Well:

Survey: Injecting/SI

INTRODUCTION: The following Injection Profile Report has been created using data acquired from the Indepth Production Solutions Logging System deployed in memory mode by Wireline on July

OBJECTIVE:

The objective is to evaluate the injection profile into the perforated intervals and to identify any anomalous injection patterns.

OBSERVATIONS:

- SL unit ran a 1.75" gauge ring prior to deploying logging string to 4,681' MD.
- 38% of the water injected goes into the interval 4,575-4,573'.
- The remaining injection is detailed in table below.
- The logging interval was 4,530 - 4,676'. BHT at 4,676' was 120 F at a pressure of 3,236 psia.
- Injection surface pressure recorded during the survey was 1,230 psia at a rate of 2000 bwpd.

SUMMARY TABLE INJECTING:

INTERVAL SUMMARY TABLE						
ZONES (FT)				WATER		
				STB/D		
INT.	Top		Bot	QWZT	QWZI	%QWI
1	4561	-	4562	-1967	-419	21%
2	4567	-	4573	-1548	-449	23%
3	4575	-	4580	-1098	-749	38%
4	4584	-	4591	-349	-150	8%
5	4593	-	4595	-200	-100	5%
6	4598	-	4605	-100	-100	5%
TOTALS					-1967	100%





INDEPTH WELL PERFORMANCE MONITOR

Company:

Field:

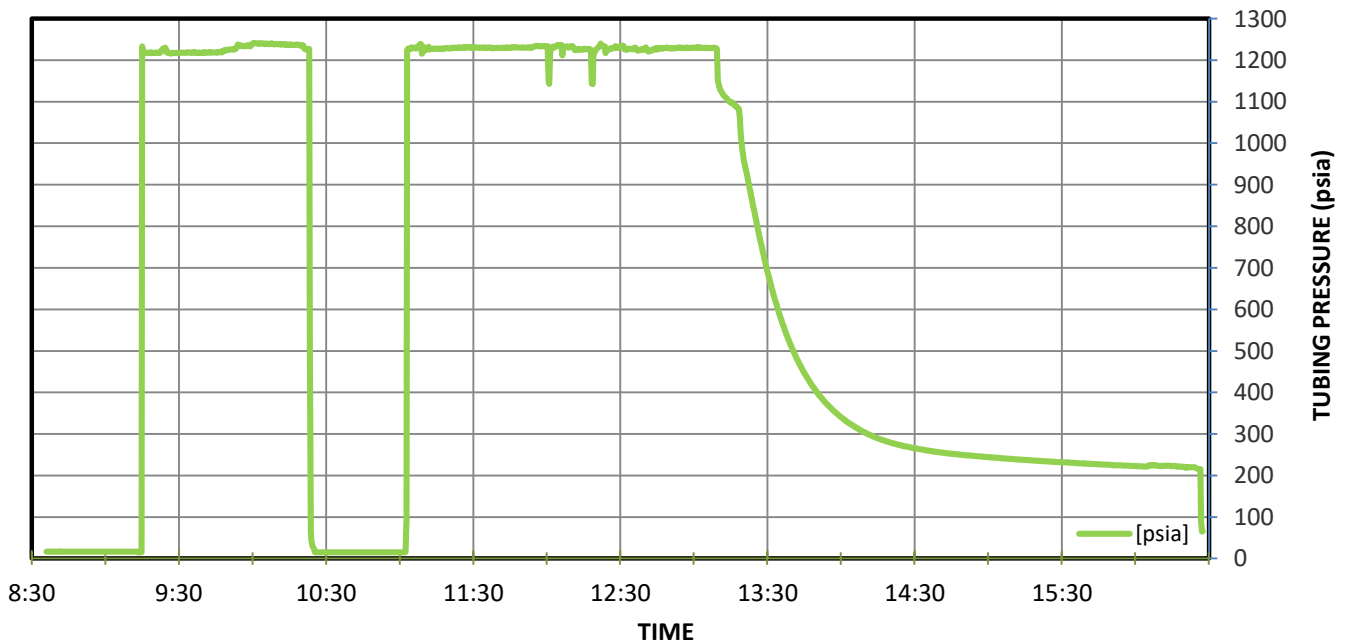
Well:

Test: Injection Profile

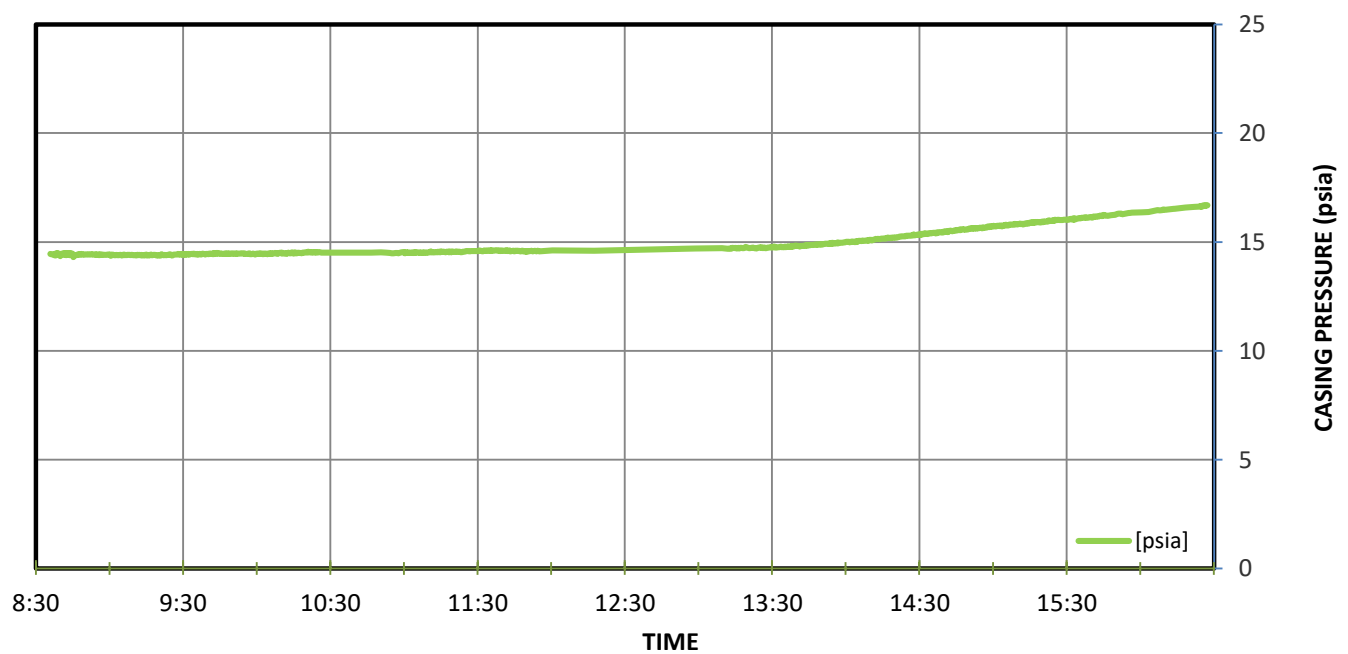
Date:

Survey: Injecting/SI

Indepth Well Performance Monitor - Tubing Pressure



Indepth Well Performance Monitor - Casing Pressure



LOG PRESENTATIONS



Log Analysis Confidence via Indepth

Indepth Production Solutions Houston, Texas (832-600-1900)

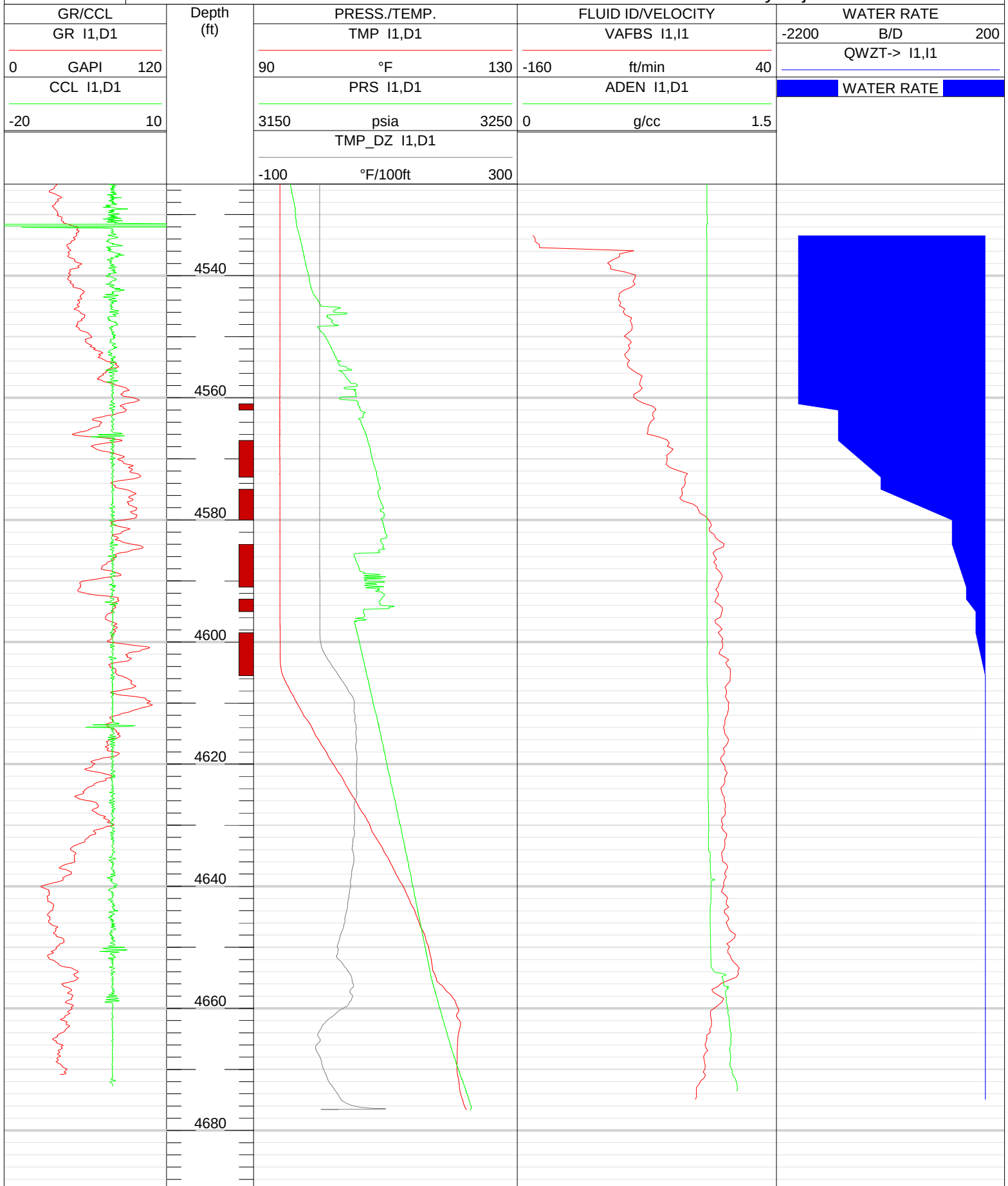
dheddleston@indepthps.com



EVALUATION LOG DATA PLOT

Test: Injection Profile

Survey: Injection # 1

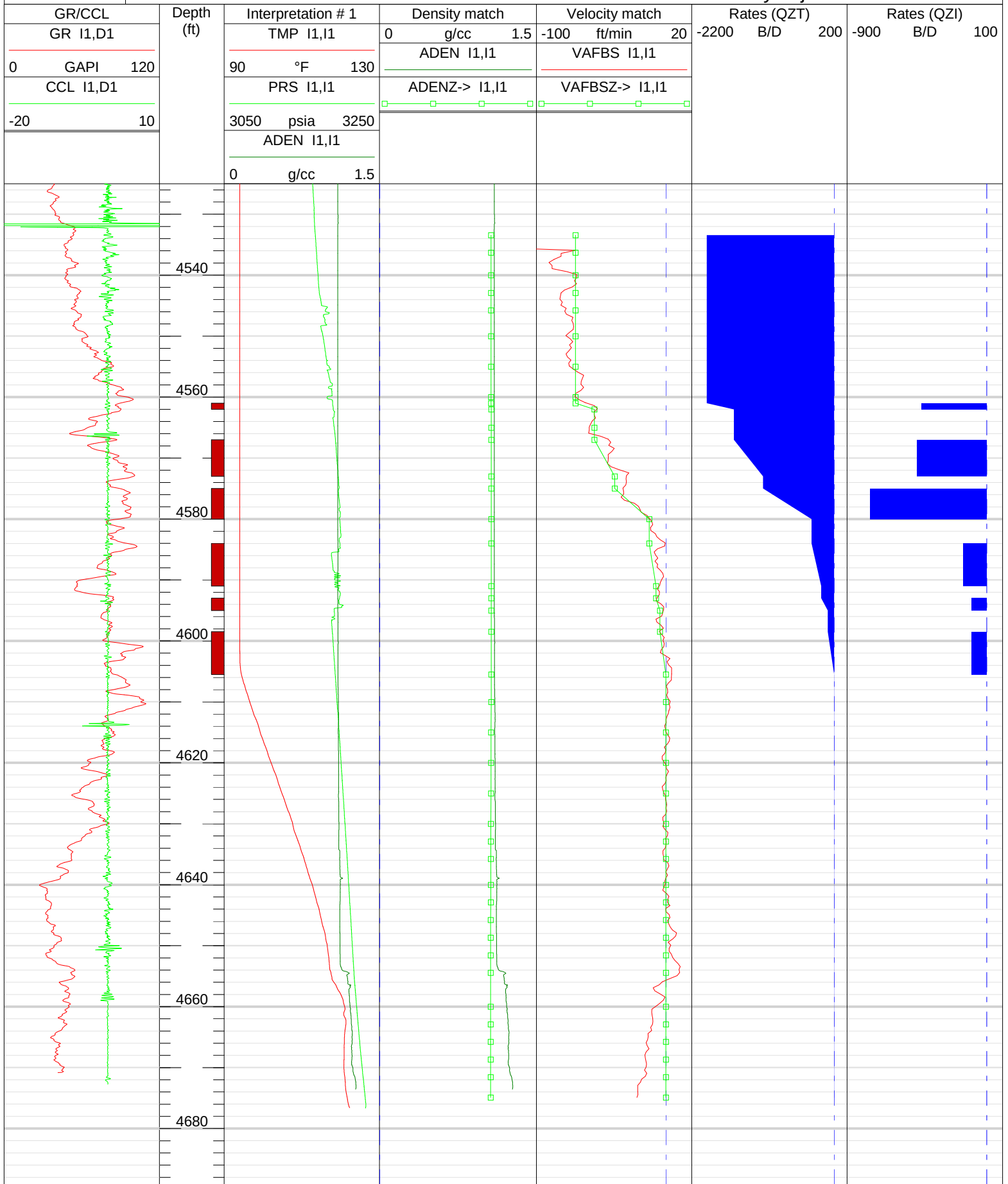




INTERPRETATION LOG DATA PLOT

Test: Injection Profile

Survey: Injection # 1

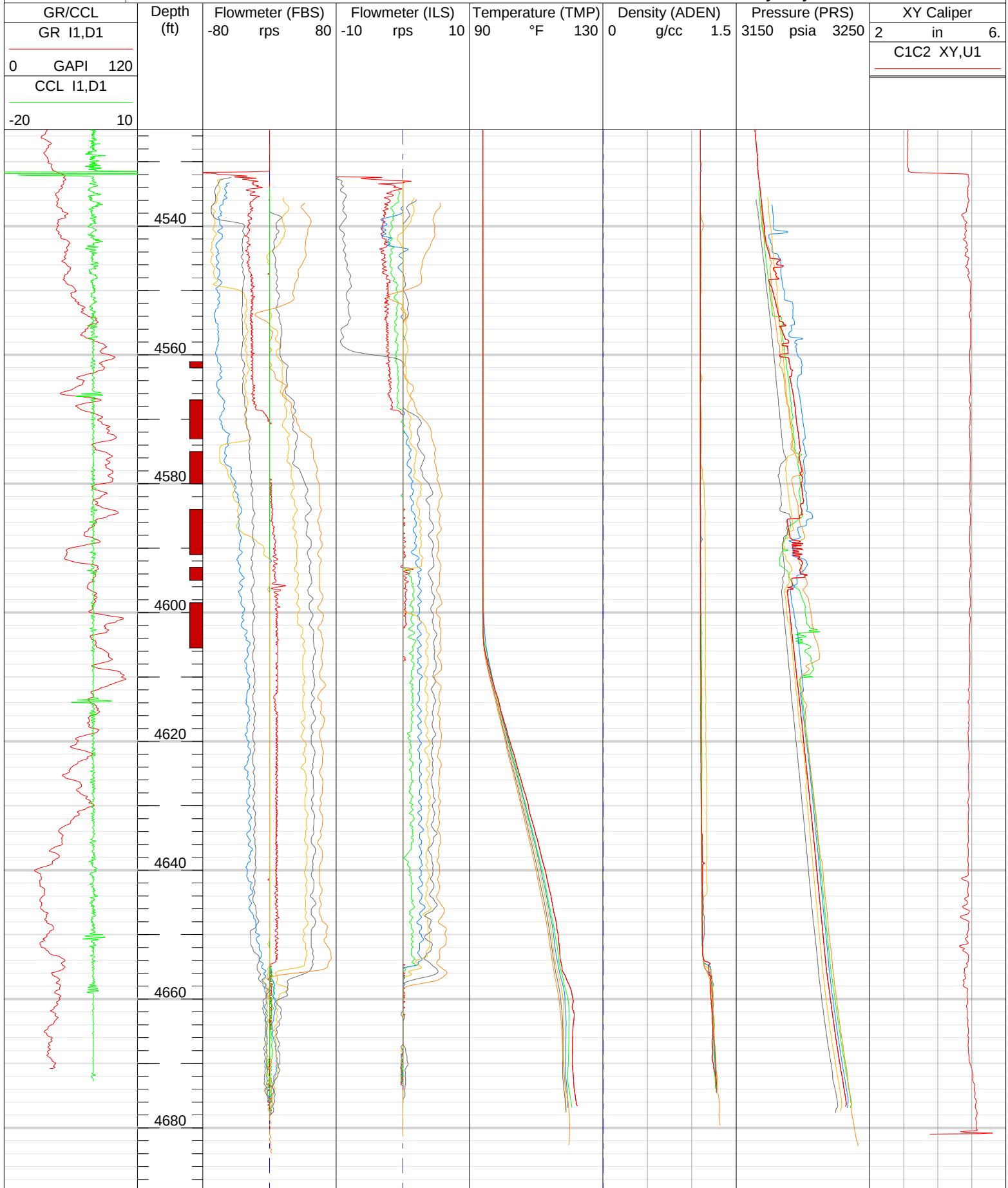




INJECTION LOG DATA PLOT

Test: Injection Profile

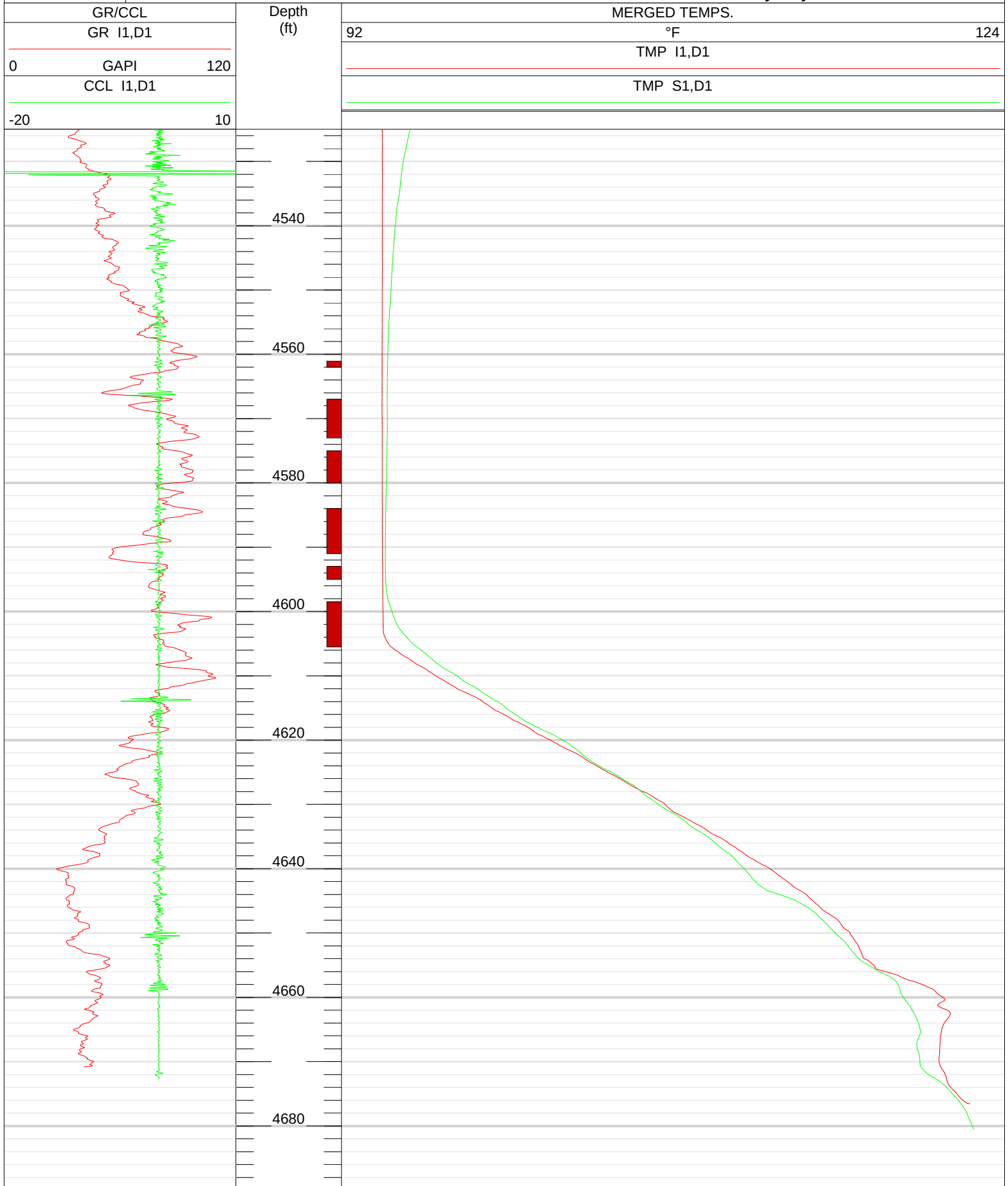
Survey: Injection # 1





Test: Injection Profile

Survey: Injection # 1



LOG ANALYSIS RESULTS



Log Analysis Confidence via Indepth

Indepth Production Solutions Houston, Texas (832-600-1900)

dheddleston@indepthps.com



Zone Contributions; S.C.

Test: Injection Profile

Survey: Injection # 1

Zones ft	Water STB/D
Inf. 1(4561.0-4562.0)	-419.35
Inf. 2(4567.0-4573.0)	-449.31
Inf. 3(4575.0-4580.0)	-748.85
Inf. 4(4584.0-4591.0)	-149.77
Inf. 5(4593.0-4595.0)	-99.85
Inf. 6(4598.5-4605.5)	-99.85
Total (inc. Bottom)	-1966.98

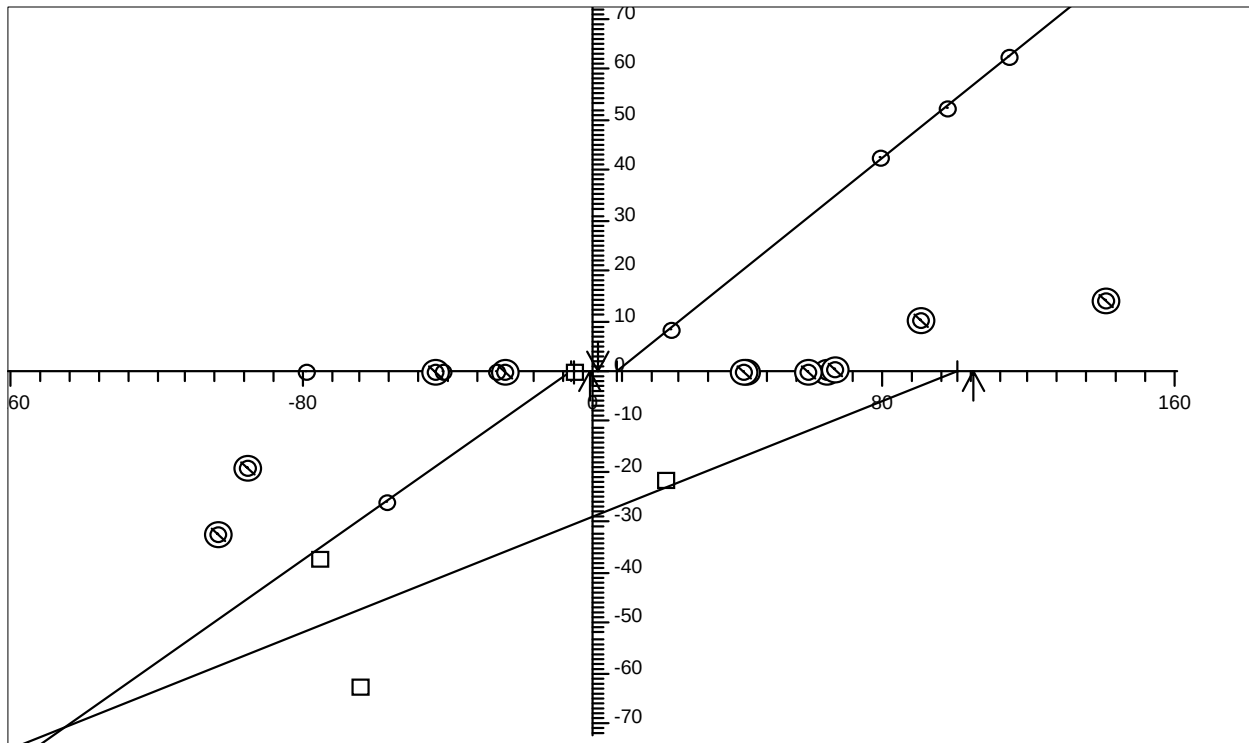


Zone Contributions; Res. Cond.

Test: Injection Profile

Survey: Injection # 1

Zones ft	Qt res. B/D	Production %	Production % eff.	Production % opt.	W O G
Inf. 1 (4561.0-4562.0)	-420.00	-21.32	21.32	-21.32	
Inf. 2 (4567.0-4573.0)	-450.00	-22.84	22.84	-22.84	
Inf. 3 (4575.0-4580.0)	-750.00	-38.07	38.07	-38.07	
Inf. 4 (4584.0-4591.0)	-150.00	-7.61	7.61	-7.61	
Inf. 5 (4593.0-4595.0)	-100.00	-5.08	5.08	-5.08	
Inf. 6 (4598.5-4605.5)	-100.00	-5.08	5.08	-5.08	



rps versus ft/min

Threshold (+) 5 ft/min

Threshold (-) -5 ft/min

	Calib. Zone ft	Slope (+)	Slope (-)	Int (+) ft/min	Int (-) ft/min	Int. Diff. ft/min
□	4547.7-4555.9	N/A	0.287	N/A	100.14	0.00
○	4619.4-4630.4	0.577	0.508	6.36	-6.00	12.36

JOB NOTES



Log Analysis Confidence via Indepth

Indepth Production Solutions Houston, Texas (832-600-1900)

dheddlestone@indepthps.com



WELL SITE IMAGES

Company:
Field:
Well:

Test: Injection Profile
Date:
Survey: Injecting/SI

