INDEPTH PRODUCTION SOLUTIONS
GAS LIFT VALVE OPTIMIZATION SURVEY

Indepth HDD™

COMPANY NAME:

WELL NAME:

COUNTY: Loving

STATE: Texas

DATE: July , 2024

Indepth Production Solutions 832-600-1900 dheddleston@indepthps.com

TABLE OF CONTENTS

Field:

Test: GLV Optimization
Date:
Survey: Flowing #1

EXECUTIVE SUMMARY - RESULTS

Test: GLV Optimization
Date:
Survey: Flowing #1

INTRODUCTION: The following Indepth Gas Lift Valve Survey has been created using data acquired from the Indepth Production Solutions Logging System deployed in Memory mode by Wireline on July

OBJECTIVE:
Run Production logging string to give an Indepth review and evaluation of the current Gas Lift Valve installation. The survey is to determine which valves are open, locate the installation depth and to see if any of the valves are leaking or not firing as per design.

OBSERVATIONS:
- No gauge ring run was made prior to the logging survey.
- The depth corrected logging interval was from surface to 10,402'.
- Bottom hole temperature at 10,402' was 167 F at a pressure of 1,924 psia.
- Gas lift injection pressure recorded during the survey averaged 830 psia with a flowing tubing pressure of 200 psia.
- The well is lifting from the two valves #9 (4,710') and #8 (5,414').
- All valves were found to be on depth as referenced on installation sheet.

GAS LIFT VALVE SUMMARY TABLE

GAS LIFT VALVE (FT)				STATUS	FLOWMETER	TEMPERATURE		PRESSURE		DENSITY
GLV	TOP		BTM.	OPEN/CLOSE	RPS	DEG F	DEG F/FT	PSI	PSI/FT	G/CC
SRF	35.0			N/A	129.9	83.7	N/A	168.4	N/A	0.06
13	1657.9	-	1662.0	CLOSED	69.7	93.5	0.006	317.9	0.093	0.06
12	2567.9	-	2572.0	CLOSED	52.2	100.6	0.008	419.5	0.115	0.07
11	3273.9	-	3278.0	CLOSED	38.3	107.2	0.009	497.0	0.105	0.07
10	4012.9	-	4017.0	CLOSED	44.1	113.7	0.009	551.1	0.076	0.08
9	***4723.9***	***-***	***4728.0***	***OPEN***	***28.6***	***119.9***	***0.009***	***652.8***	***0.138***	***0.16***
8	***5462.9***	***-***	***5467.0***	***OPEN***	***25.6***	***127.1***	***0.010***	***785.3***	***0.185***	***0.10***
7	6174.4	-	6178.5	CLOSED	-2.3	136.4	0.010	926.9	0.197	0.26
6	6917.4	-	6921.5	CLOSED	0.2	143.8	0.010	1063.0	0.184	0.20
5	7623.4	-	7627.5	CLOSED	0.8	151.4	0.011	1208.5	0.207	0.12
4	8301.4	-	8305.5	CLOSED	2.2	158.7	0.011	1358.0	0.220	0.14
3	9014.9	-	9019.0	CLOSED	-0.1	165.8	0.010	1511.4	0.215	0.34
2	9721.4	-	9725.5	CLOSED	-0.1	171.3	0.008	1690.1	0.255	0.38
1	10366.9	-	10371.0	CLOSED	-1.2	171.6	0.000	1700.3	0.000	0.30
BTM	10402.0			N/A	-2.3	175.7	0.006	1857.1	0.244	0.50

LOG PRESENTATIONS

Log Analysis Confidence via Indepth

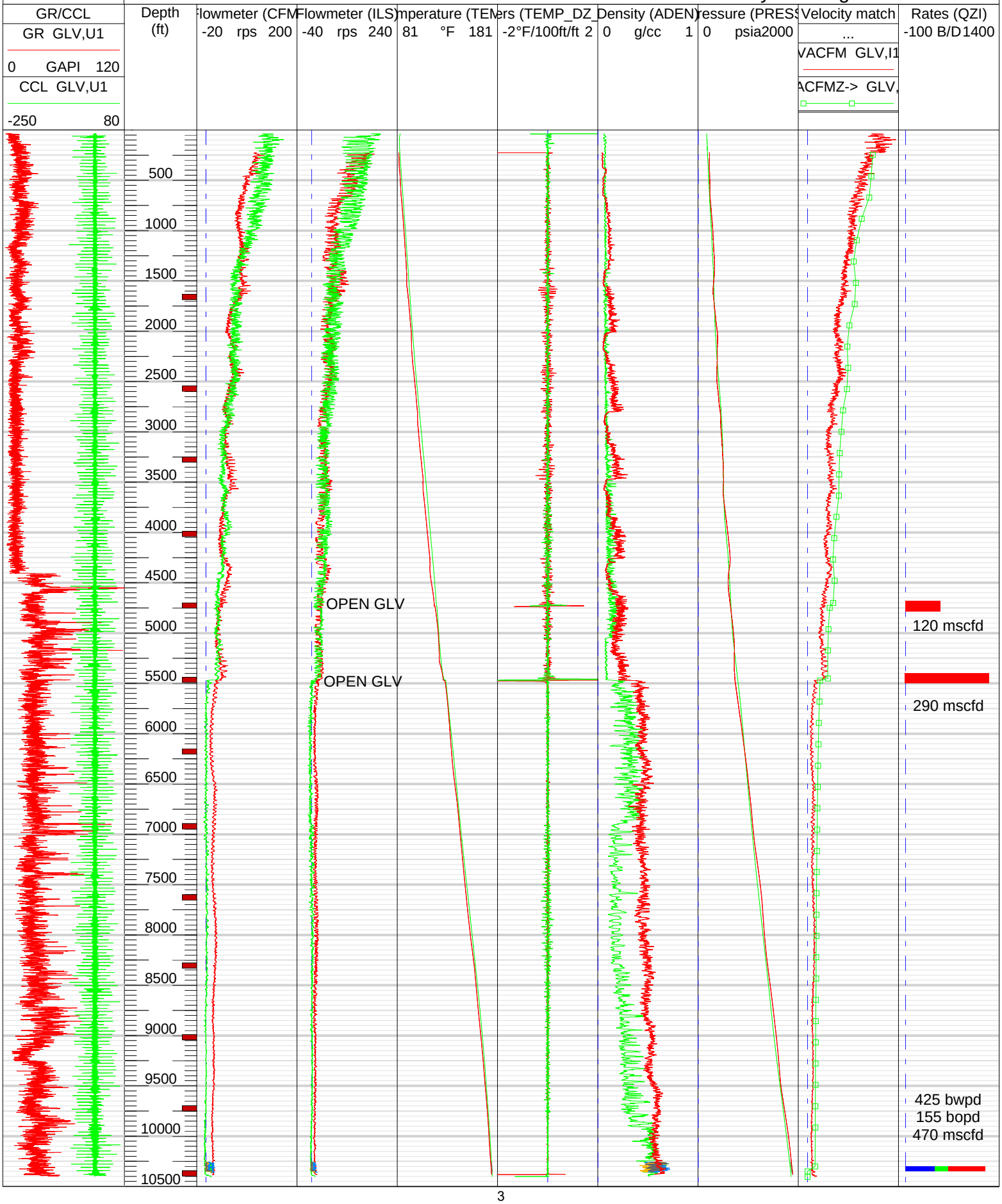
Indepth Production Solutions Houston, Texas (832-600-1900)

dheddleston@indepthps.com

GLV OPTIMIZATION LOG DATA PLOT

Test: GLV Optimization

Survey: Flowing # 1



DATA PLOTS

Log Analysis Confidence via Indepth

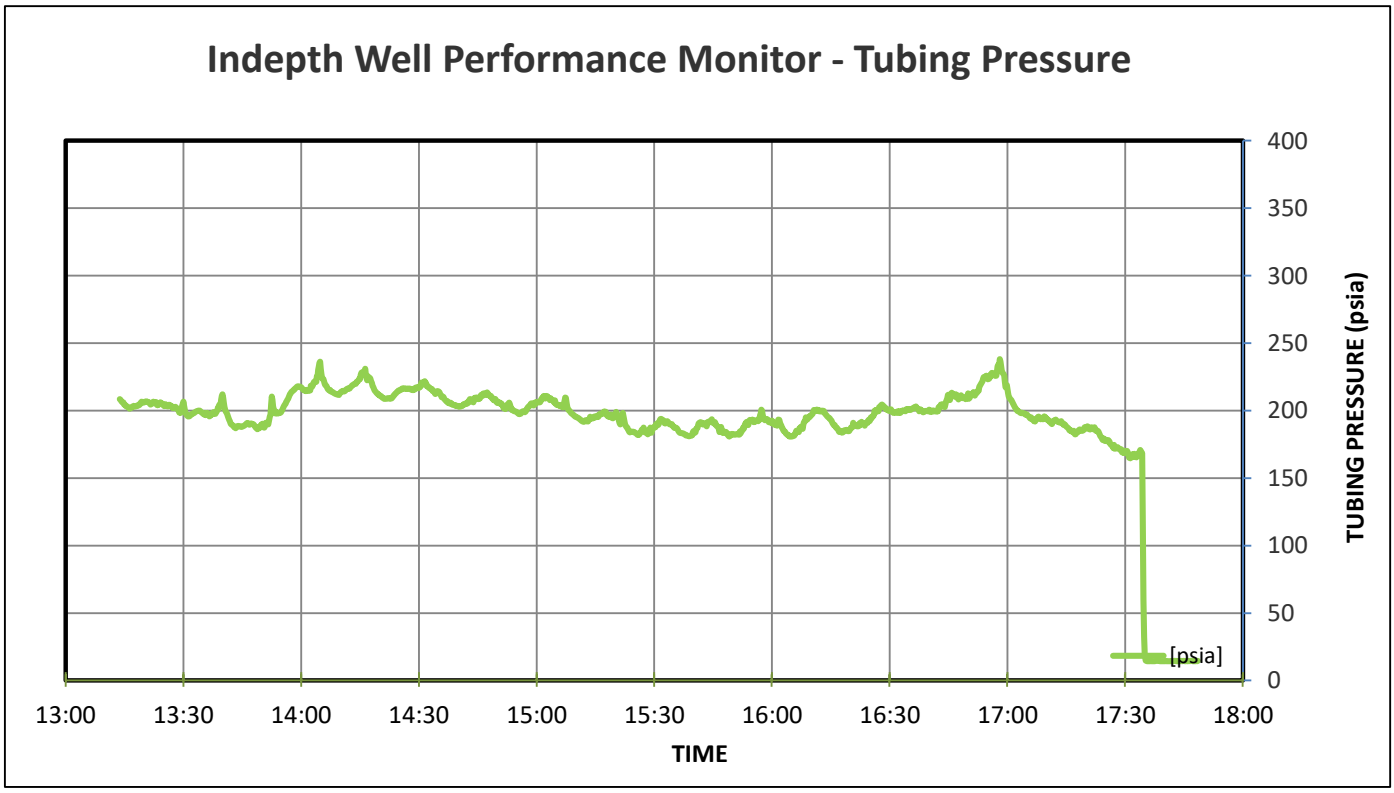
Indepth Production Solutions Houston, Texas (832-600-1900)

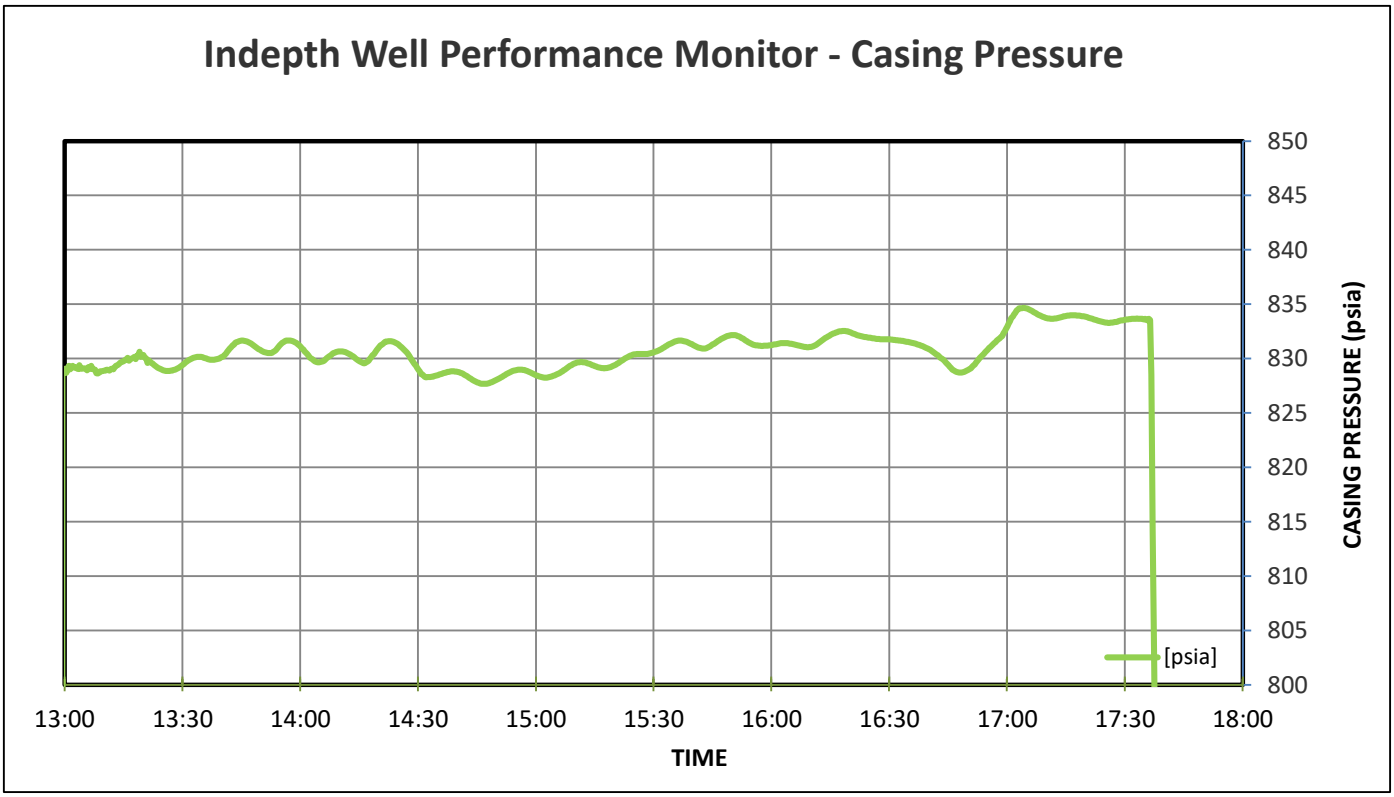
dheddleston@indepthps.com

INDEPTH WELL PERFORMANCE MONITOR

Company:
Field:
Well:

Test: GLV Optimization
Date:
Survey: Flowing #1

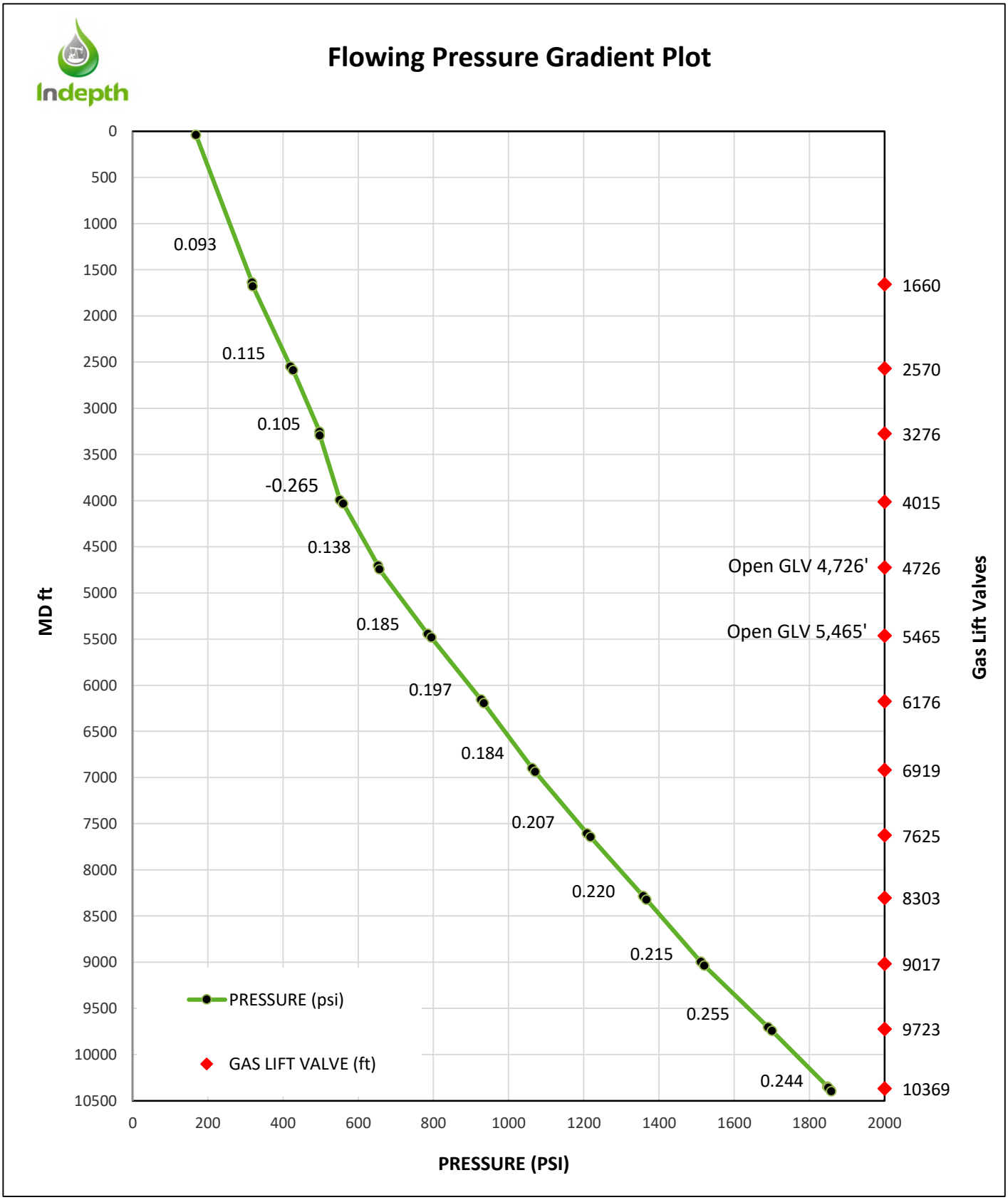




FLOWING PRESSURE GRADIENT PLOT

Company:
Field:
Well:

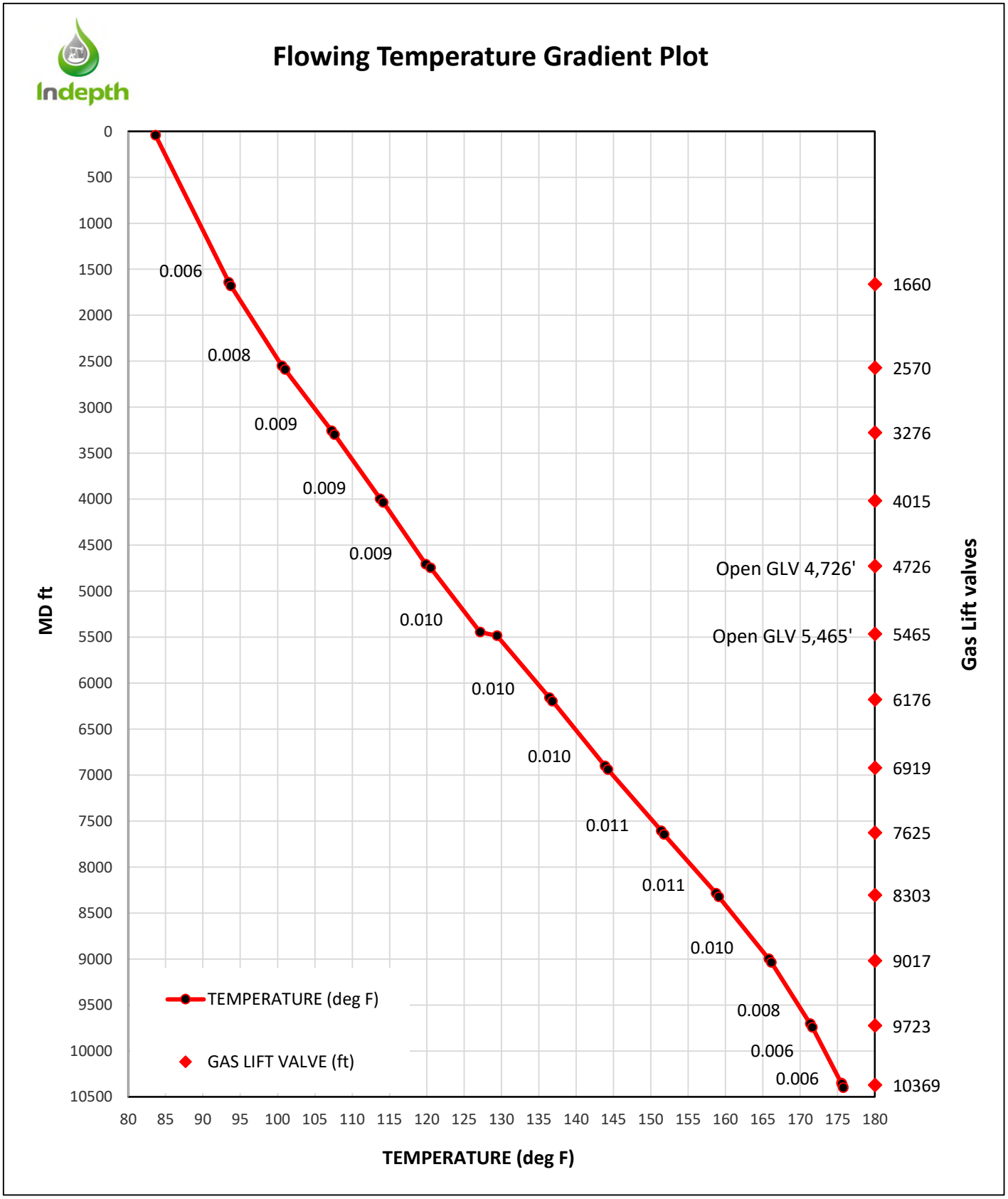
Test: GLV Optimization
Date:
Survey: Flowing #1



FLOWING TEMPERATURE GRADIENT PLOT

Company:
Field:
Well:

Test: GLV Optimization
Date:
Survey: Flowing #1

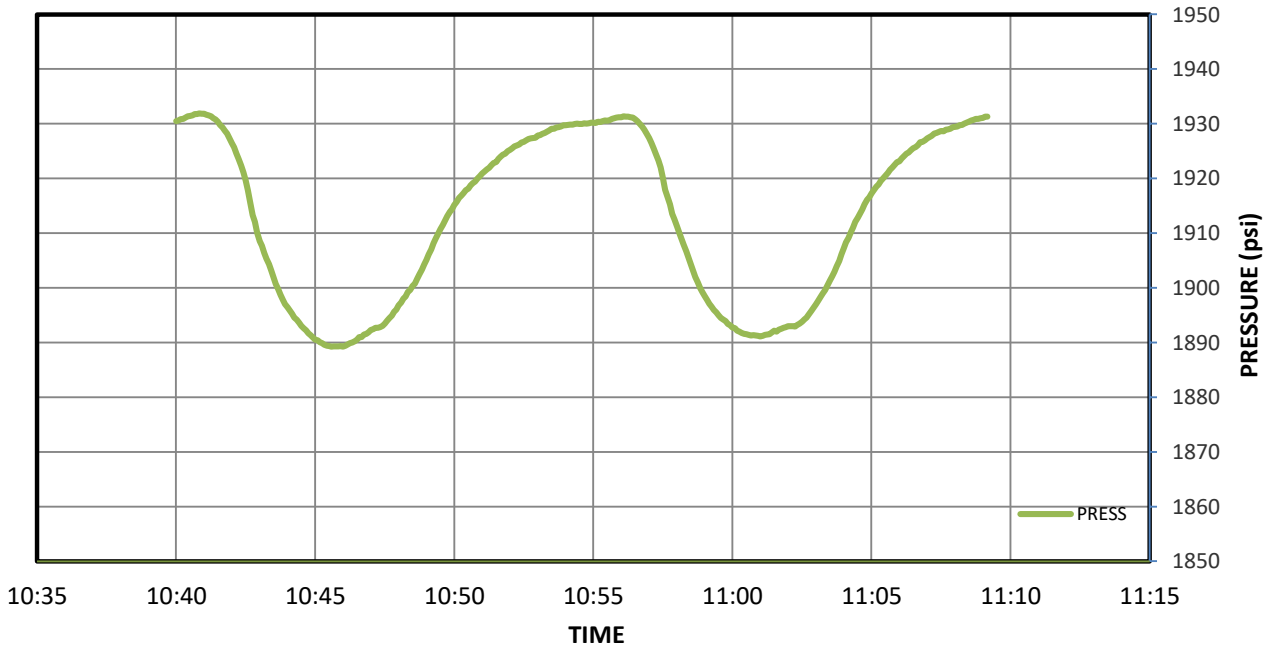


FLOWING BOTTOM HOLE PRESSURE

Company:
Field:
Well:

Test: GLV Optimization
Date:
Survey: Flowing #1

Flowing Bottom Hole Pressure Plot - 10,403'



JOB NOTES

Log Analysis Confidence via Indepth

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

dheddleston@indepthps.com

OPERATIONS LOG

Test: GLV Optimization
Date:
Survey: Flowing #1

OPERATIONS LOG

PASS	COMMENTS	TIME	START DEPTH	TIME	STOP DEPTH
	Arrive on Location	12:45			
FD 85	First down pass @ 85 FPM	13:10	0	15:21	10403
FCAL 30,60,90	Calibration Passes 30/60/90	15:21	10403	15:35	10303
FSS 10403	Flowing stationary stop @ 30 min	15:35	10403	16:05	10403
FU 120	First up pass @ 120 FPM	16:05	10403	17:30	0

WELL SITE IMAGES

Company:
Field:
Well:

Test:
Date:
Survey: Flowing #1