


Case Study #2Upside of pumped-off well.Savings of \$1750/month0.1 m3 pd incr

Golden Company
100/00-00-000-00 WOM/00
Surface: 00-00-000-00 WOM

Foreman's Report/Work Order

Work Ordered By: William Domore	Type of work: Dynamometer.
Date work completed: xxxx-03-10	Work completed by:  (403)309-2620
Reason for Dynamometer: Evaluate the causes of production losses.	Comments: Follow-up test. Well pumped-off. Good pump function. Gearbox heavily loaded (unit underbalanced).

Work requested:

To match pump displacement to well inflow and reduce loading,

- decrease the stroke length from pitman #1 to #3 and
- reduce the pumping speed from 3.6 spm to 2.7 spm by installing a jackshaft with 8.0 inch and 6.0 inch sheaves and maintaining the current gas engine speed.

Please note that gearbox wipers may be required for proper lubrication when pumping speed is below 3.5 spm.

Monitor production, allow the well to stabilize and re-dyno to evaluate the equipment loading and to balance the unit.

Work order requested by:	
Date requested:	
Work performed by:	
Date completed:	
Comments/results	

100/00-00-000-00 WOM/00
Surface: 00-00-000-00 WOM

Prepared For
William Domore

Dynamometer Analysis

1. The well was underperforming. This is a follow-up test after the well has produced for 24 hours.
2. The results of this test indicate that the well has been drawn down by 78 joints in a 24 hour period and is now producing all its available fluid. As a result, the equipment loading has increased from 156.3% to 177.3% gearbox (unit underbalanced, balanced torque would be at 106.3%), 60.3% to 78.0% rod string, and 72.4% to 78.2% unit structure. The downhole pump is functioning well. System friction is evident.
3. To match pump displacement to well inflow and reduce loading, consider decreasing the stroke length from pitman #1 to #3 and reducing the pumping speed from 3.6 spm to 2.7 spm by installing a jackshaft with 8.0 inch and 6.0 inch sheaves and maintaining the current gas engine speed. Please note that gearbox wipers may be required for proper lubrication when pumping speed is below 3.5 spm. Monitor production, allow the well to stabilize and re-dyno to evaluate the equipment loading and to balance the unit.
4. If additional production is anticipated, consider conducting a pressure survey to determine the causes of the pumped-off conditions, such as a declined reservoir pressure and/or a damaged wellbore.

Field Observations
Belts are tight and in good condition.
Brakes are in good condition.
Gearbox backlash is not evident.
Polished rod is hot to touch.
Baird valve is holding properly.
Casing pressure: 62 kPa Tubing Pressure: 2 kPa Initial Fluid level was at 203.0 joints from surface.



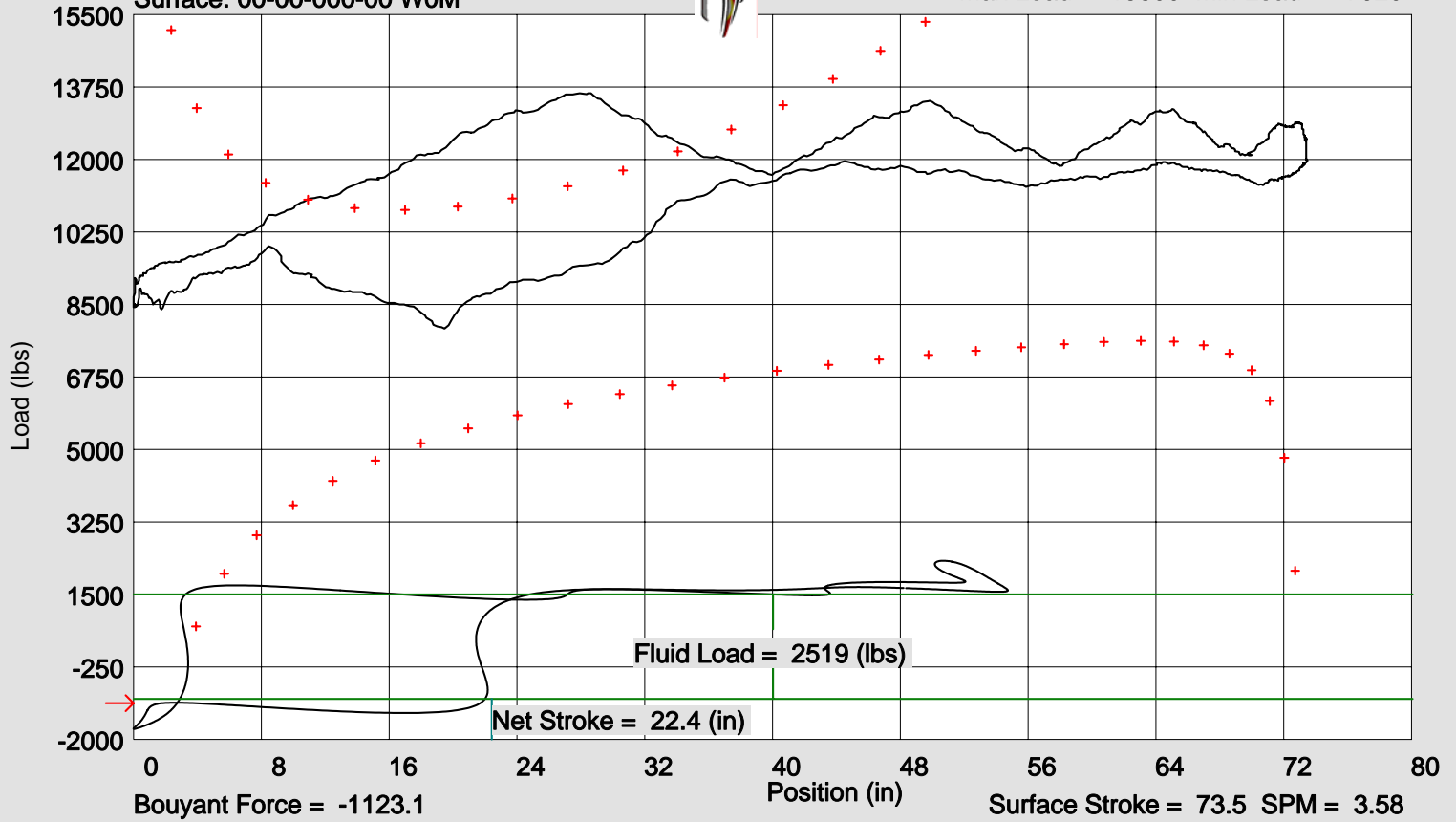
Prepared by: Scott Finnestad (403)309-2620

xxxx-03-10



Downhole: 100/00-00-000-00 WOM/00
Surface: 00-00-000-00 WOM

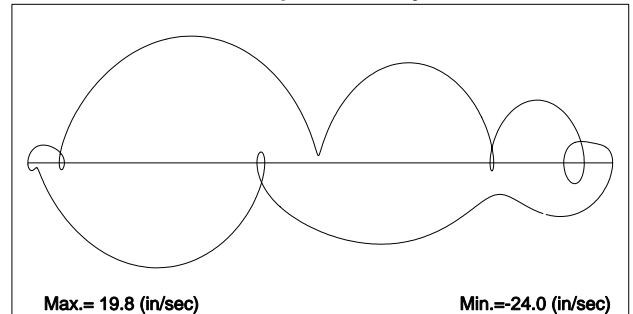
Max Load = 13600 Min Load = 7920



Rod Loading

Depth (m)	Rod Size (mm)	Loads		% Goodman Range Service Factor of		
		Max (lbs)	Min (lbs)	(1.0)	(0.9)	(0.8)
				0.00	31.8	13660.0
9.00	19.0	12906.5	8722.0	47.1	58.7	78.0
1936.86	19.0	2315.4	-1745.6	30.2	33.0	36.5

Pump Velocity



Pump Efficiencies

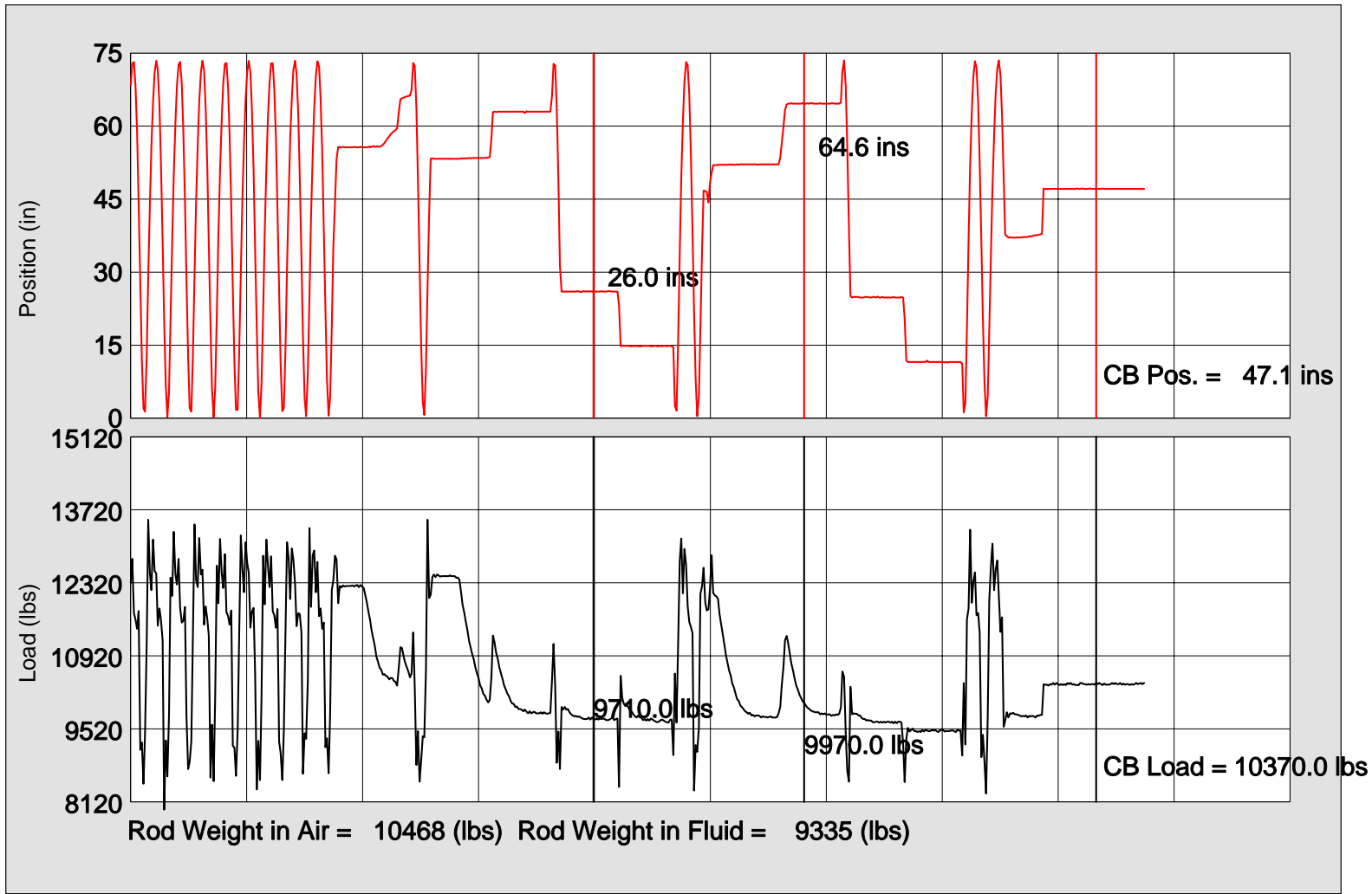
Pump Size (in): 1.25	Gross	Net
Downhole Stroke (in):	54.74	22.43
Displacement (m3/day):	5.67	2.32
Efficiency (%)	***	***

Current Production

Oil (m3/day):	***
Water (m3/day):	***
Gas (E3m3/day):	***

Comments

The downhole pumpcard indicates good pump function. System and stuffing box friction is evident. Stuffing box friction adds at least 500 lbs to the polished rod loading.



Comments

The valve checks indicate that the downhole pump has a slight travel valve leak. This is considered normal.

Golden Company Ltd.

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Tbg
2.00
kPa

Csg
62.00
kPa

Elevations:
KB (m): 999.00
CF (m): 995.00

Casing:
OD (mm): 114.30
ID (mm): 100.70
Weight(kg/m): 14.14
Depth (mKB): 1962.00

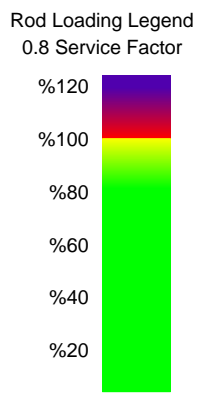
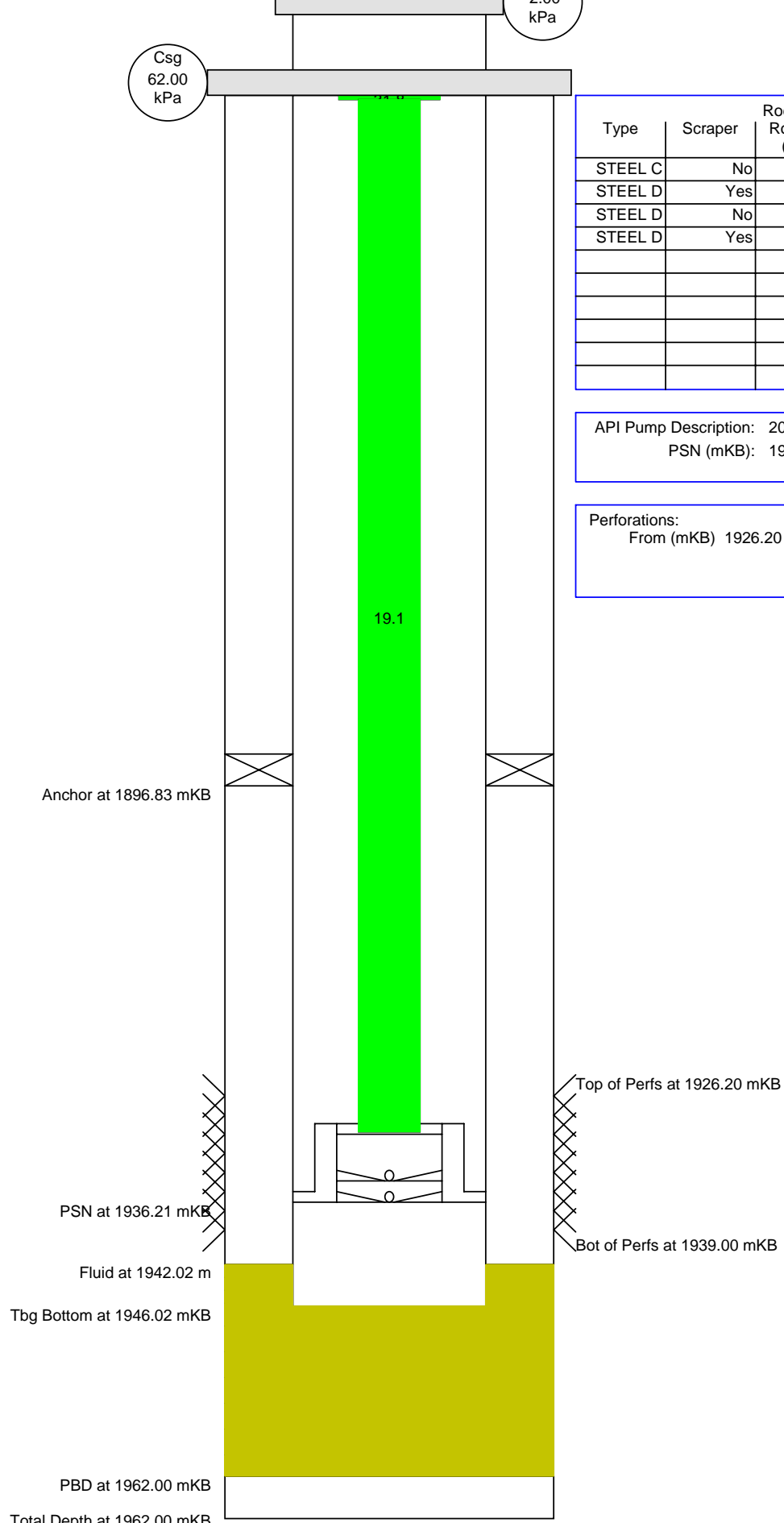
Tubing:
OD (mm): 60.30
ID (mm): 50.70
Weight(kg/m): 6.97
Depth (mKB): 1946.02
Number of Jts: 203

Liner:
ID (mm): 0.00
Top (mKB): 0.00
Bottom(mKB): 0.00

Type	Scraper	Rod String Rod Dia. (mm)	# Rods	Length (m)
STEEL C	No	31.80	1	9.00
STEEL D	Yes	19.10	95	723.90
STEEL D	No	19.10	148	1127.76
STEEL D	Yes	19.10	10	76.20

API Pump Description: 20-125 RHAC 10.0- 5.0- 4.0
PSN (mKB): 1936.21

Perforations:
From (mKB) 1926.20 to 1939.00



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