

WELL INTEGRITY LOG ANALYSIS

EV Epidote complement their technical software products with consultancy services covering all aspects of Well Integrity wireline logging

EV Epidote provides well integrity consultancy ranging from survey planning advice through to multi-well, time lapse corrosion analysis. We specialise in the evaluation of multi-finger caliper, thickness and related well integrity measurements. Through many years' experience developing software for analysing and reporting this data we have acquired a thorough understanding of how tubular anomalies are recorded and best understood. Operating companies receive detailed, impartial reporting that helps extract maximum value from their data. Service Company customers, often existing MIPS users, are able to draw on our specialised knowledge to better manage their Interpretation workloads.

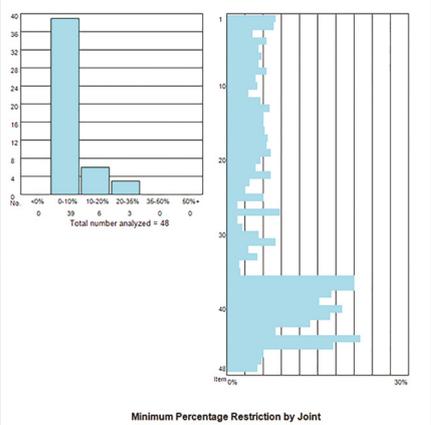


Client: XYX Oil and Gas Company
 Well: Example Well Name
 Date: 16-Jun-2016
 Analyst: GR
 Pipe: 4 1/2" Tubing Su

Top Depth: 3,328 ft
 Bottom Depth: 14,567 f
 Run#: 4
 # Fingers: 40

Field: Onshore Field Name
 Country: United Kingdom
 Ref#: 3a
 Tool Size: 3.625" OD
 Tool Type: WXYZ-0123

Item Number	Top Body	Bottom Body	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss Ins Sq	Max Loss %	Max Loss Depth	Max Wall Ins	Min Wall %	Comments
1	11480.390	11516.710	4.408	77.000	11512.590	1.918	70.981	11512.590	0.216	23.000	Possible hole
2	11517.750	11550.710	4.154	13.500	11543.030	0.156	5.760	11544.030	0.216	86.500	Analyst comments and/or auto-
3	11551.450	11588.010	4.177	19.250	11564.910	0.325	12.012	11565.010	0.208	80.750	generated pipe grading comments
4	11588.830	11622.490	4.189	22.250	11611.610	0.418	15.487	11611.790	0.213	77.750	Poor
5	11623.310	11658.390	4.194	23.500	11653.870	0.439	16.263	11654.590	0.211	76.500	Poor
6	11659.270	11694.090	4.168	17.000	11678.170	0.255	9.428	11677.330	0.211	83.000	Fair
7	11694.910	11730.990	4.171	17.750	11730.710	0.317	11.735	11730.950	0.211	82.250	Fair
8	11731.690	11766.690	4.161	15.250	11750.731	0.251	9.284	11759.550	0.213	84.750	Fair
9	11767.410	11803.470	4.179	19.750	11788.870	0.286	10.570	11775.990	0.210	80.250	Fair



Minimum Percentage Restriction by Joint



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008 Statistics Example Data_2.mip1
 Depth: 12779.99 ft
 Arm Number: 16
 Arm Value: 4.68 in



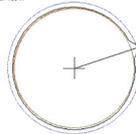
Drift ID: 4.02 in
 Nominal ID: 4.1 in
 Outer Diameter: 4.6 in

Radius:
 Maximum: 4.68 in
 Minimum: 4.389 in
 Mean: 4.42 in
 Wall Pen: 150%
 ref. nominal diameter

Cross wall diameter:
 Maximum: 4.62 in
 Minimum: 4.407 in
 Direction arm: 16

Max Penetration Joint #36 4.86ins 100%

008 Statistics Example Data_3.mip1
 Depth: 12776.00 ft
 Arm Number: 9
 Arm Value: 4.68 in



Drift ID: 4.02 in
 Nominal ID: 4.1 in
 Outer Diameter: 4.6 in

Radius:
 Maximum: 4.68 in
 Minimum: 4.134 in
 Mean: 4.19 in
 Wall Pen: 140%
 ref. nominal diameter

Cross wall diameter:
 Maximum: 4.418 in
 Minimum: 4.164 in
 Direction arm: 16

Max Penetration Joint #37 4.86ins 100%

Example Report Extracts

INTRODUCTION

evcam.com



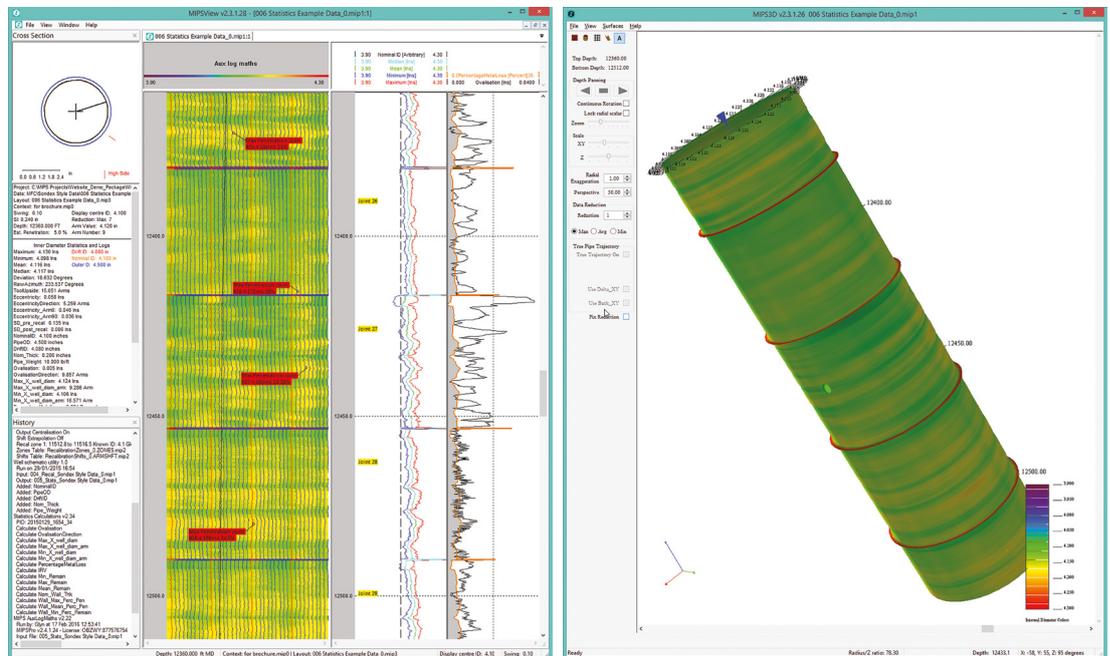
APPLICATIONS

Often used during well production, workover and abandonment phases, applications for our consultancy services include:

- Corrosion and other metal loss analysis
- Restriction analysis of scale or other deposits
- Identification of mechanical deformation
- Setting depth optimisation for plugs, packers, ESPs etc.
- Time lapse analysis
- Program review and acquisition planning
- Analysis of 'difficult' data sets
- Data QC, reporting peer review, and audit service

REPORTING

Our MIPSPro software provides a comprehensive range of processing options and includes a built-in reporting module that provides accurate, consistent and time efficient results. Reports can be readily tailored to end user preferences - focusing on particular analysis requirements, or using preferred interpretation methods with results presented in a user defined format. Results are delivered in a detailed written report supported by log plots, digital data and a MIPSView project that allows the end user to inspect data and visualise results in 2D and 3D. When immediate operational decisions need to be made based on analysis results we provide a fast turnaround service, typically within a few hours of data receipt.



Deliverables include a MIPSView project with interactive 2D and 3D viewing software