

ConocoPhillips Canada

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P.O. Box 130, Station "M"
Calgary, Alberta T2P 2H7
(403) 233-4000

MAIL ROOM
SALE DE COURIER
2014 MAY 16 A 11:25
NEB/ONE

May 13, 2014

Chief Conservation Officer
National Energy Board
444 Seventh Avenue SW
Calgary, AB
T2P 0X8
Canada

Attention: Patrick Smyth

SUBJECT: OA-1211-002 - Submission of COPRC Loon Creek O-06 Re-Entry Well History Report

Dear Sir:

ConocoPhillips Canada Resources Corp. ("ConocoPhillips") hereby submits the Well History Report for COPRC Dodo Canyon E-76 as per requirement 3 of the Approval to Alter Condition of Well Term and Conditions. This submission contains:

- Two paper copies of the Well History Report
- Two paper copies of microseismic interpretation
- One electronic copy of the Well History Report
- One electronic copy of final microseismic interpretation

Also enclosed is one copy of the Well Termination record for the above noted well.

Please direct any questions or concerns concerning this submission to my attention at (403) 233-3250 or Cyril Jenkins at (403) 233-3326.

Sincerely,



Eric Hanson, P.Geol (AB)
Supervisor Central Mackenzie Valley
Chinook Appraisal



WELL TERMINATION RECORD

Well Name	COPRC Loon Creek O-06 65-10 127- 00		Well ID	300O06651012700			
Operator	ConocoPhillips Canada Resources Corp.		Current Well Status	Suspended			
Total Depth	1856m KB		Licence No.	Exploration Licence 470			
Location	Unit	O	Section	06	Grid	65-10 127-00	
Coordinates (NAD27)	Surface		Lat	65 ° 06 ' 51.4 "		Long	127 ° 00 ' 30.6 "
	Bottom Hole		Lat	° ' "		Long	° ' "
Region	NWT Mainland						
Target Formation	Canol		Field/Pool	/			
Elevation KB/RT	257.60 m		Ground Level / Seafloor	252.40 m			
Spud/Re-Entry Date	30-Jan-14		Rig Release Date	2/17/2014			

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m KB)	Cementing (m ³)
244.5	53.57	J-55	597.0	26.1
177.8	38.69	P-110	1856.0	32.1

PLUGGING PROGRAM

Type of Plug	Interval (m KB)	Felt	Depth (m KB)	Cement (m ³)
Other	1690.56-1694.43	No		
Other	1725.96-1729.83	No		
Other	1767.56-1771.43	No		
Select	-	Select		
Select	-	Select		


PERFORATION

Interval (m KB)	Comments
1692.0-1693.0	"Upper" Lower Canol perfs sealed with casing patch over perforations
1727.0-1728.0	"Middle " Lower Canol perforations sealed with casing patch over perforations
1769.0-1770.0	"Basal" Lower Canol perfs sealed with caing patch over perfortations
-	

Lost Circulation/Overpressure Zones	n/a
Equipment Left on Seafloor (Describe)	n/a
Provision for Re-entry (Describe and attach sketch)	Wellbore is full of water with propylene glycol pill sitting from surface to +/-100 m KB
Other Downhole Completion/Suspension	

"I certify that the information provided on this form is true and correct"

Name	Eric Hanson	Telephone	(403) 233-3250 Ext
Job Designation	Team Lead, CMV project	E-Mail	eric.S.Hanson@cop.com
Operator	ConocoPhillips Canada Resources Corp.		

Signature		Date	05/12/2014
Responsible Officer of Company			

NATIONAL ENERGY BOARD USE ONLY

The details of this document have been examined and verified by

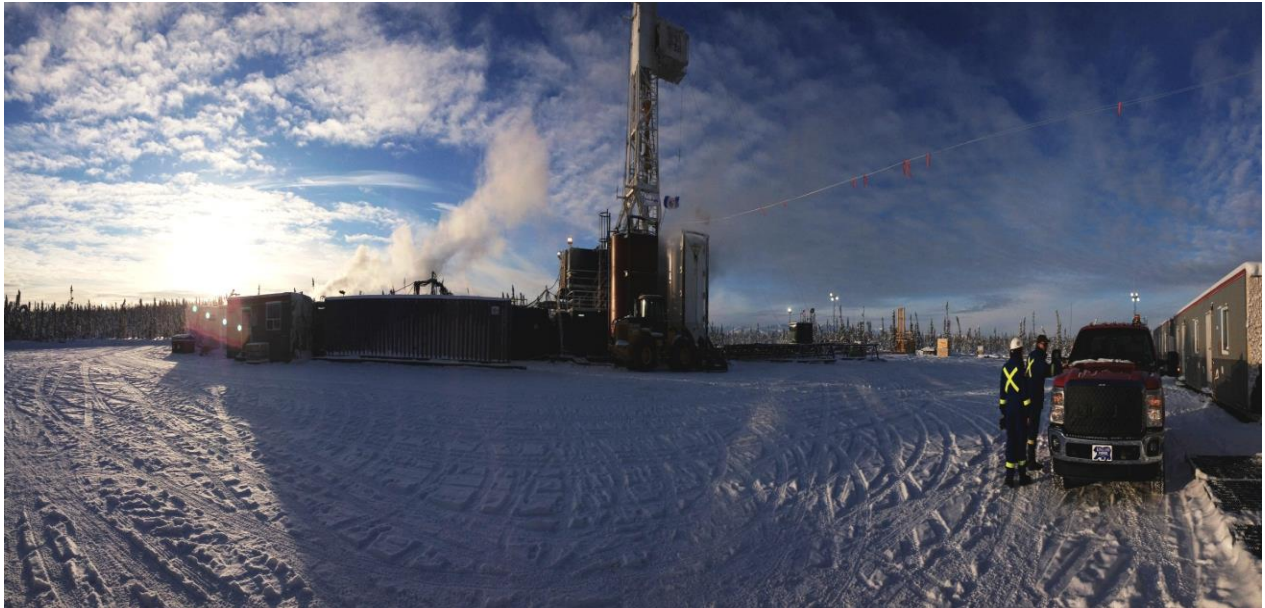
Job Designation		Well Identifier		Unique Well Identifier	
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Signature		Date	
NEB Authority			

COPRC Loon Creek O-06 Final Well Report

Grid # 65°10', 127°00'

2014/05/12



COPRC Loon Creek O-06

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1.0 Introduction

1.1 Summary

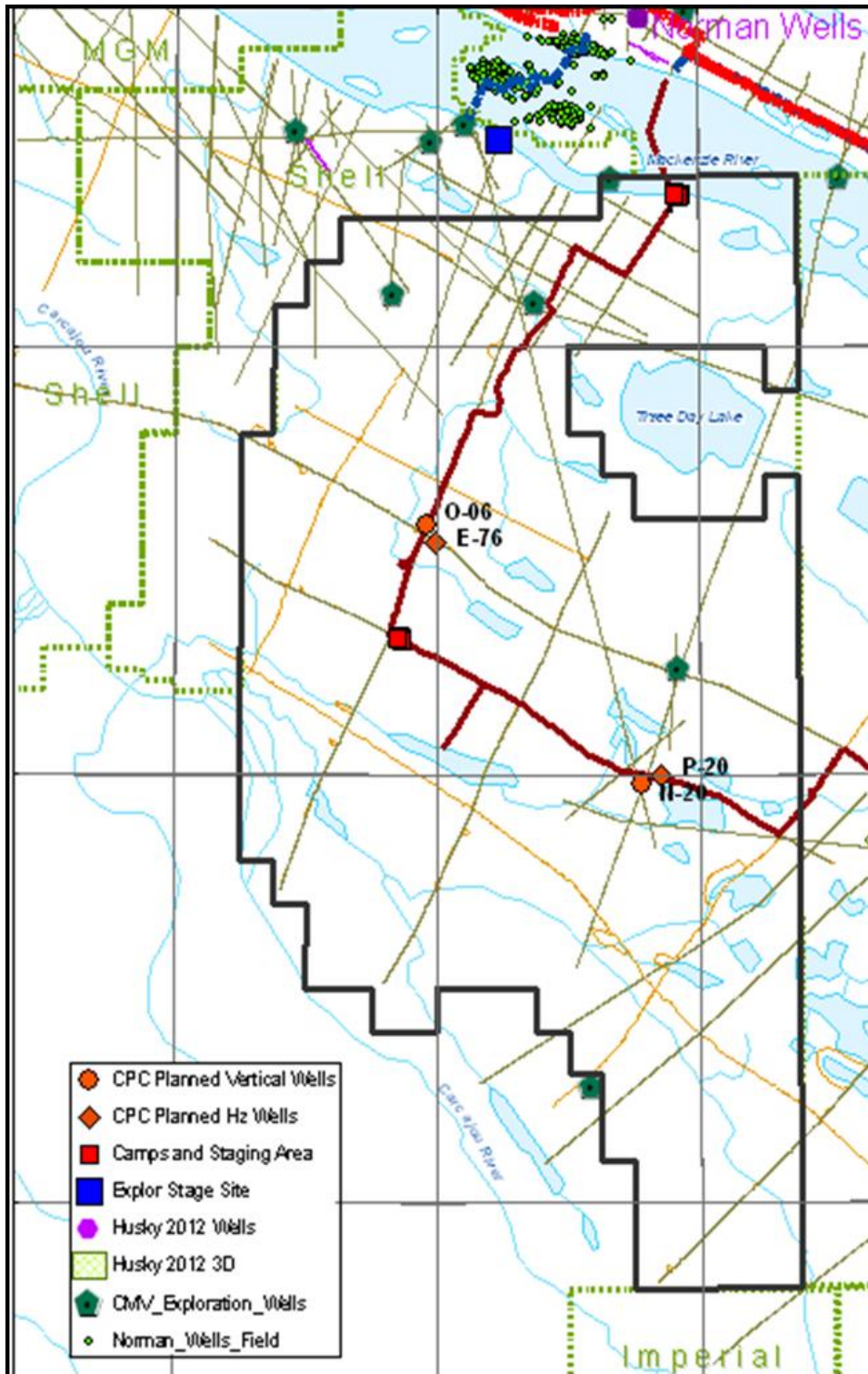
Completions operations began on the COPRC Loon Creek well on January 30, 2014 and the personnel and service company equipment were released on February 17 2014 when microseismic monitoring of the hydraulic fracturing operations on COPRC Dodo Canyon E-76 was completed with a total of 19 operating days on the well.

Completion operations were conducted with no major issues and no safety incidents occurred.

Microseismic monitoring was conducted on COPRC Loon Creek O-06 between February 5 and February 17 2014. The microseismic monitoring program was very successful with no significant seismic events recorded during the hydraulic fracturing operations on Dodo Canyon E-76.

The Loon Creek O-06 well is suspended with wellhead installed and valves chained and locked.

1.2 Locality Map



2.0 General Data

2.1 Well Name

COPRC Loon Creek O-06

2.2 Unique Well Identifier

3000066510127000

2.3 Operator and Completions Contractor

ConocoPhillips Canada Resources Corporation

Schlumberger Canada Ltd.

2.4 Difficulties and Delays

There were no significant drilling issues or delays experienced on this well.

3.0 Summary of Completions Operations

3.1 Elevations

Ground Level: 252.40 m

Kelly Bushing: 257.60 m

KB – Ground Level: 5.20 m

3.2 Total depth

1856 m KB

3.3 Commencement Date and Time

January 30 2014 @ 1030 Hours

3.4 Date Operations Completed

Drilling completed 2/17/2104

3.5 Rig Release Date and Time

N/A.

3.6 Well Status

Suspended

3.7 Hole sizes and depths

Surface Hole: 311 mm to 600 m KB

Main Hole: 222 mm to 1856 m KB (TD)

3.8 Casing and Cementing Record

3.7.1 Conductor Hole

3.8.2 Surface Hole

244.5 mm, 53.57 kg/m, J-55 LTC set at 597.0 m KB

3.8.3 Main Hole

177.8 mm, 38.69 kg/m P-110 LTC set at 1856.0 m KB

3.9 Suspension Status

CPORC O-06 is suspended. A StreamFlo 34.5 MPa wellhead with two master valves is installed and chained and locked.

4. Well Evaluation

4.1 Surface Casing Vent Flow report

4.2 Microseismic Monitoring Report

II. Completions Daily Reports

III. Final Completions Schematic

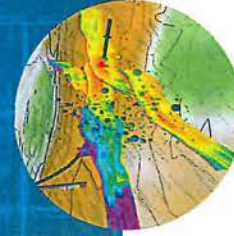
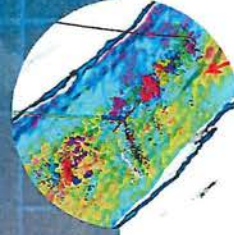
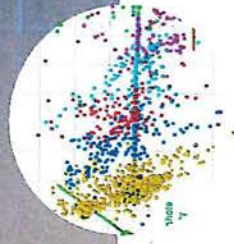
IV. Completions Daily Activity and Cost Summary

V. Completions End of Job QC Summary

Schlumberger

ConocoPhillips
Dodo Canyon E-76
Microseismic Results

Martin Haege, Richard Parker
April 30th 2014



Microseismic Services
Image·Interpret·Integrate

Schlumberger

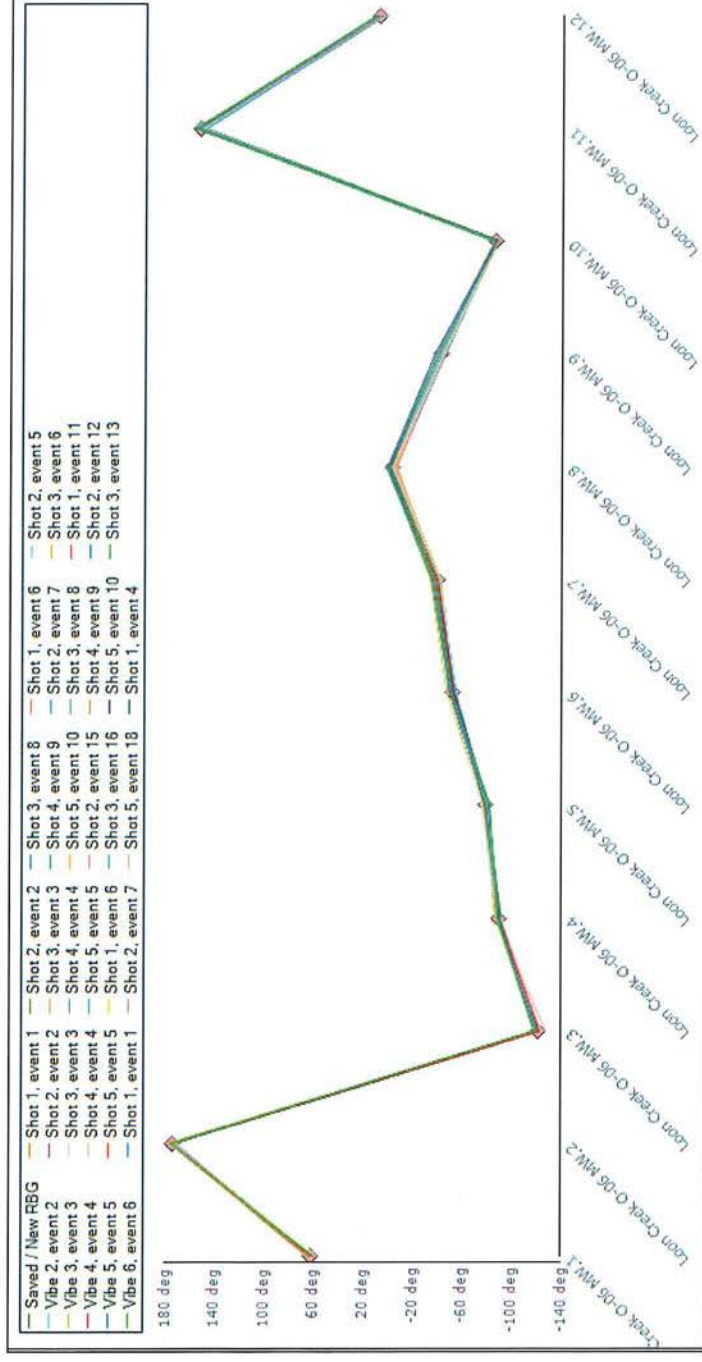
Content

- Casing vent identification
- Receiver orientation
- Velocity model building
- Microseismic events
- Waveform examples
- ESV



Microseismic Services
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Receiver orientation



New RBG std dev	
1.95	MW.1
1.74	MW.2
2.48	MW.3
1.15	MW.4
1.69	MW.5
1.69	MW.6
2.16	MW.7
2.69	MW.8
2.79	MW.9
1.10	MW.10
2.83	MW.11
2.26	MW.12

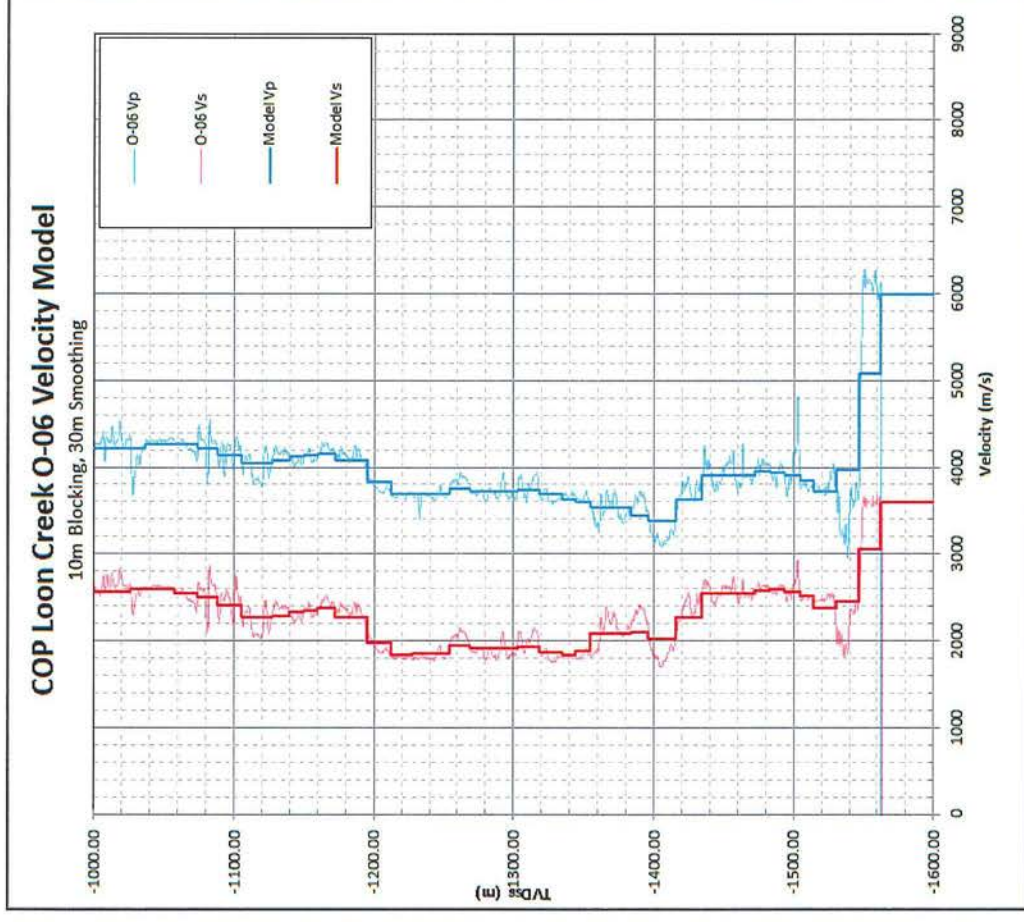
Microseismic Services
Image Interpret·Integrate



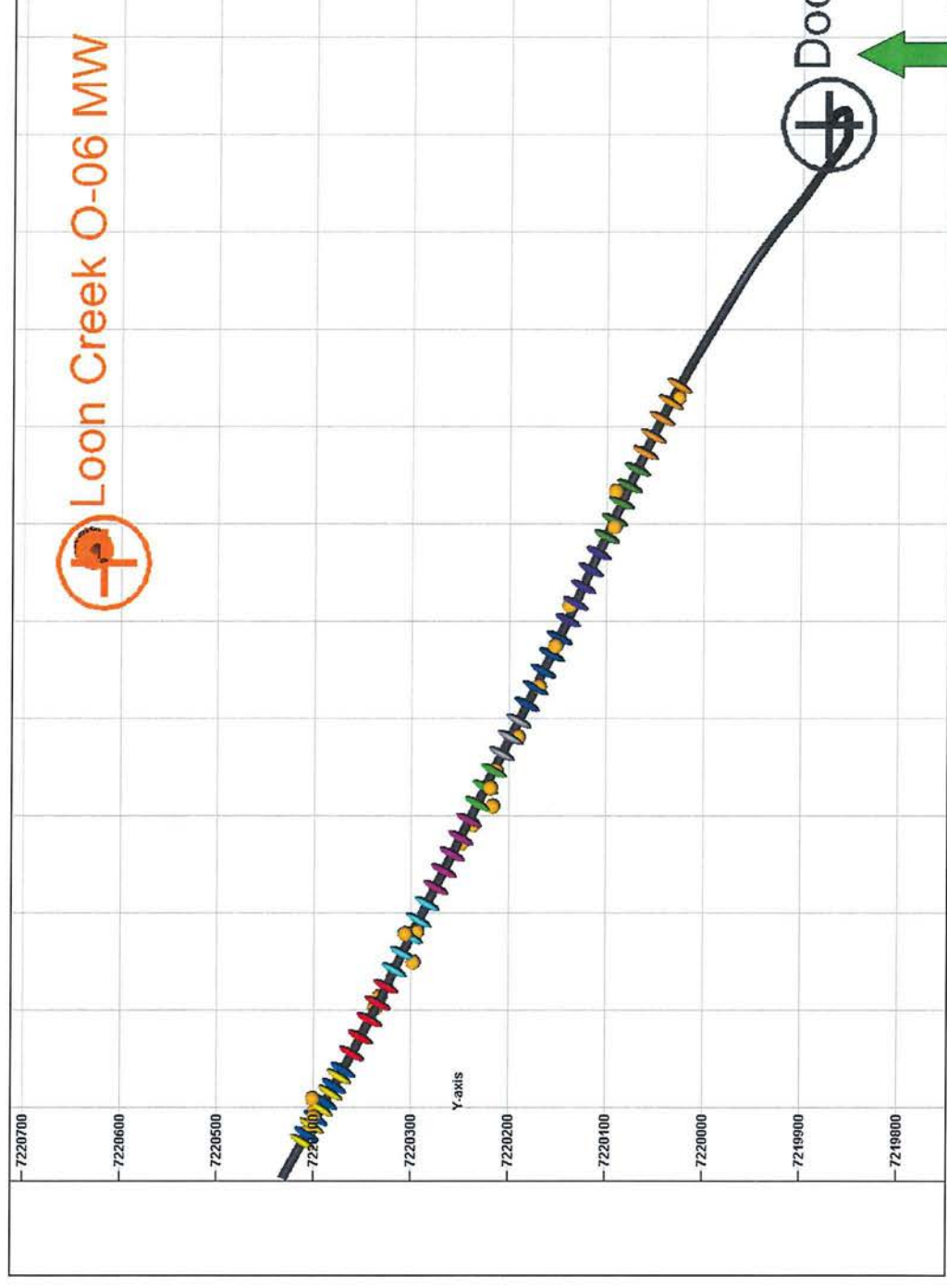
Schlumberger

Velocity Model Building: E-76

- Initial velocity model built from Loon Creek O-06 monitor well dipole sonic log
- Logs blocked with minimum thickness of 10m, smoothed at 30m



Perfs (top view)

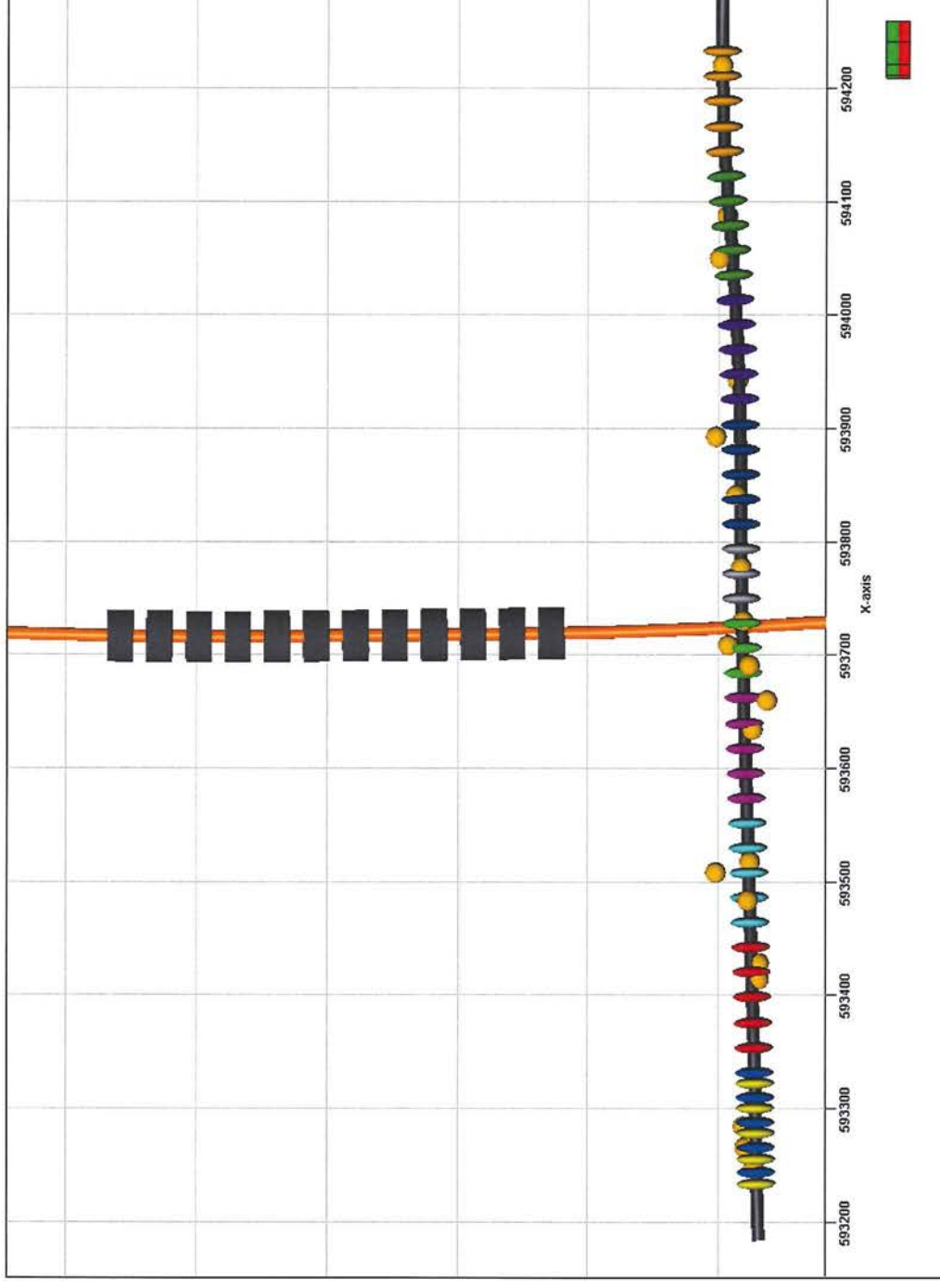


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Perfs (side view, azimuth 30, deviation 90)



Microseismic Services
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Schlumberger

Perf shots

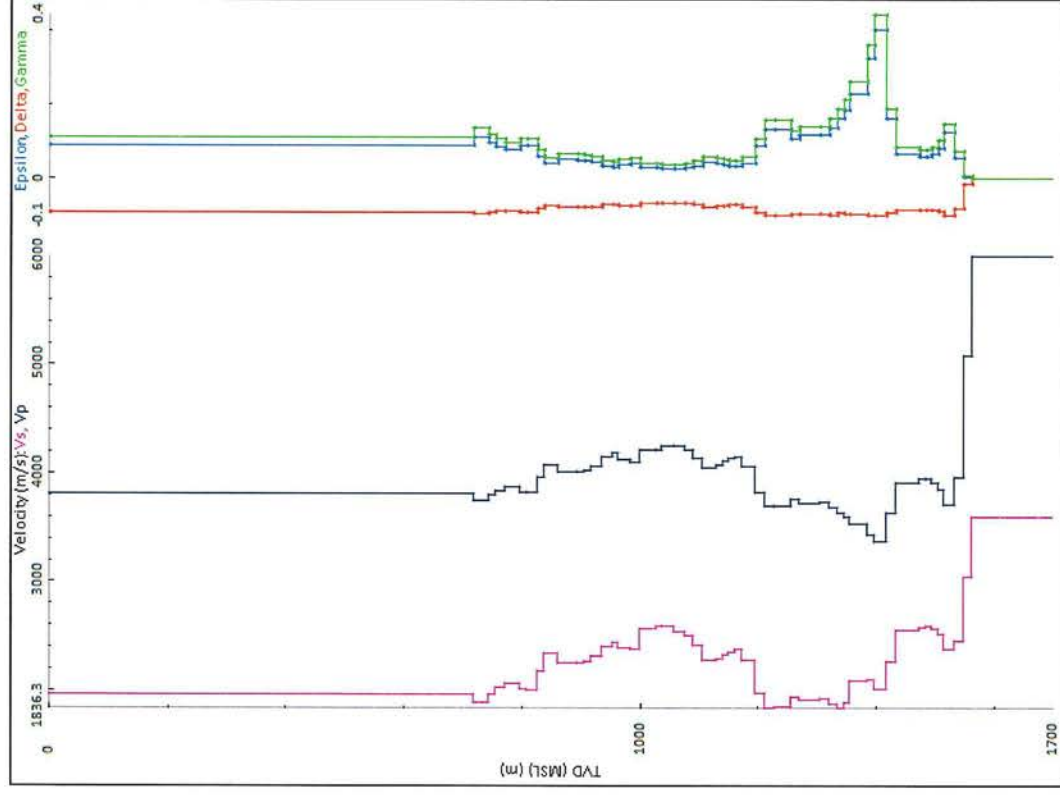
Stage #	Perf	Actual position			Relocated			Difference		
		Northing (m)	Easting (m)	Depth (m)	Northing (m)	Easting (m)	Depth (m)	dN (m)	dE (m)	dZ (m)
1	2	7220401.57	592981.40	-1528.83	7220405.40	592975.50	-1526.96	-3.83	5.90	-1.86
	3	7220392.11	592998.74	-1528.58	7220399.05	592996.96	-1525.71	-6.94	1.78	-2.87
1a	2	7220397.61	592989.21	-1528.72	7220399.54	592990.75	-1520.18	-1.93	-1.53	-8.54
	3	7220388.11	593005.66	-1528.48	7220400.93	593009.81	-1519.04	-12.82	-4.15	-9.43
2	4	7220334.22	593107.13	-1525.44	7220336.93	593102.68	-1530.58	-2.71	4.45	5.14
	5	7220326.01	593124.25	-1524.82	7220332.30	593114.37	-1530.77	-6.30	9.87	5.94
3	2	7220309.33	593158.36	-1523.81	7220297.96	593149.77	-1522.36	11.37	8.60	-1.45
	3	7220301.02	593175.43	-1523.30	7220305.99	593178.98	-1497.64	-4.98	-3.55	-25.66
	4	7220292.43	593192.37	-1522.76	7220293.90	593181.45	-1523.85	-1.46	10.92	1.09
4	4	7220249.63	593277.09	-1519.71	7220248.66	593271.86	-1525.90	0.96	5.22	6.19
	5	7220240.82	593295.03	-1519.15	7220236.72	593290.69	-1536.88	4.09	4.34	17.73
5	1	7220232.41	593312.05	-1518.68	7220216.53	593310.02	-1523.58	15.88	2.03	4.89
	2	7220224.05	593329.10	-1518.22	7220218.60	593329.00	-1507.34	5.45	0.10	-10.87
	3	7220215.94	593346.27	-1517.69	7220213.50	593347.51	-1518.66	2.44	-1.24	0.96
6	2	7220198.98	593380.26	-1517.14	7220190.99	593381.56	-1517.28	7.99	-1.30	0.14
7	2	7220173.51	593431.23	-1516.78	7220169.31	593432.97	-1513.14	4.20	-1.74	-3.64
	4	7220156.97	593465.42	-1516.41	7220152.46	593474.80	-1497.67	4.51	-9.37	-18.74
8	1	7220140.48	593500.75	-1515.74	7220138.32	593515.99	-1514.31	2.16	-15.24	-1.43
9	1	7220100.65	593586.81	-1510.85	7220092.46	593597.25	-1500.25	8.18	-10.44	-10.61
	3	7220085.32	593621.46	-1508.11	7220091.07	593634.16	-1506.25	-5.76	-12.70	-1.86
10	5	7220026.72	593741.67	-1501.69	7220027.25	593730.33	-1502.18	-0.53	11.34	0.49
							median	4.51	4.45	4.89



Microseismic Services
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Velocity model calibration



example: stage 4

7 velocity models:

Epsilon: 0 – 0.43

Delta: -0.1 – 0.0

Gamma: 0 – 0.47

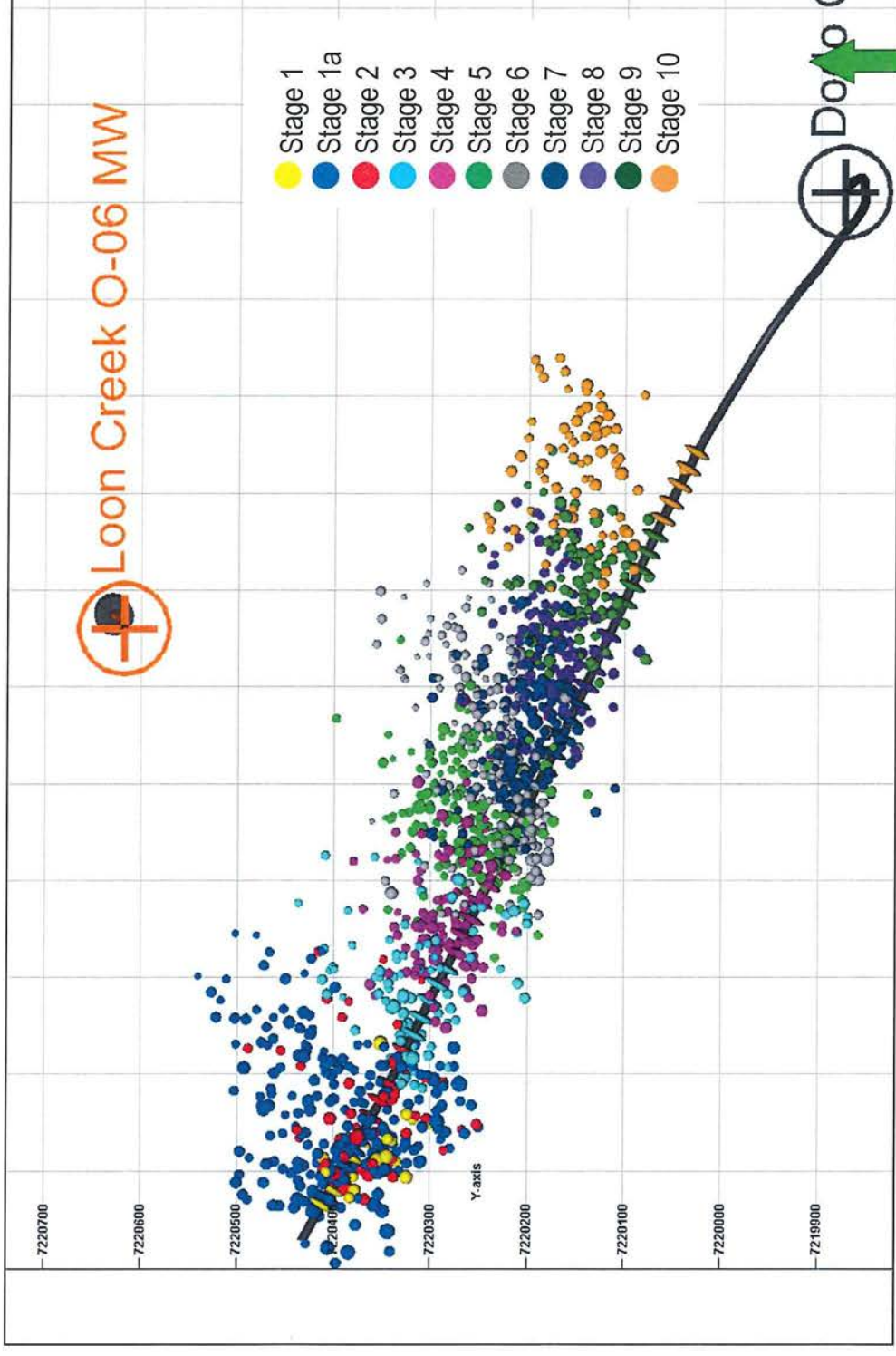
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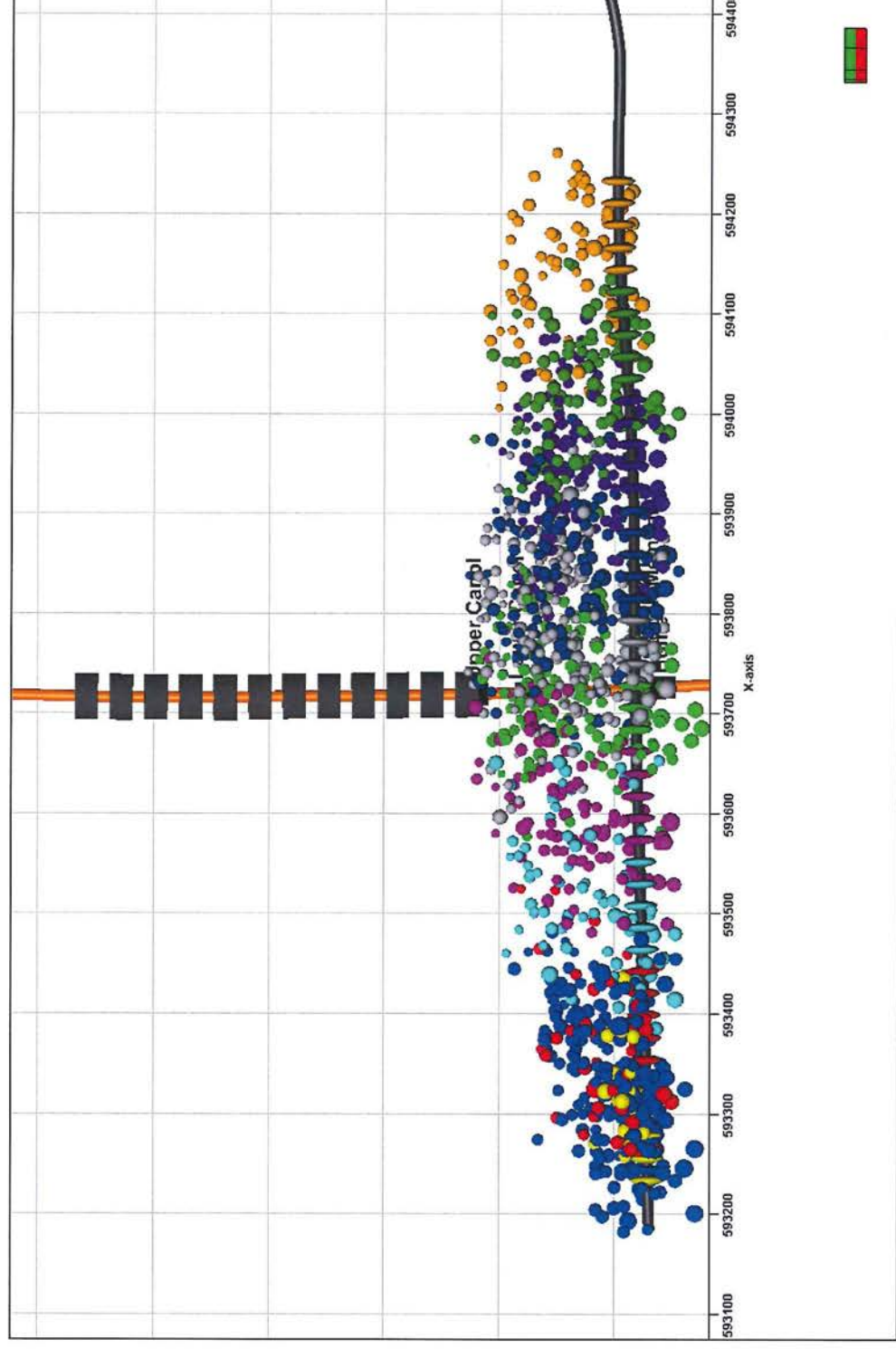
Schlumberger

Events (top view)

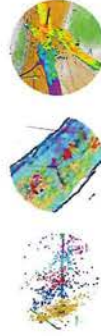
events are scaled by
magnitude ($-3 < \text{MW} < -1$)



Events (side view, azimuth 30, deviation 90)

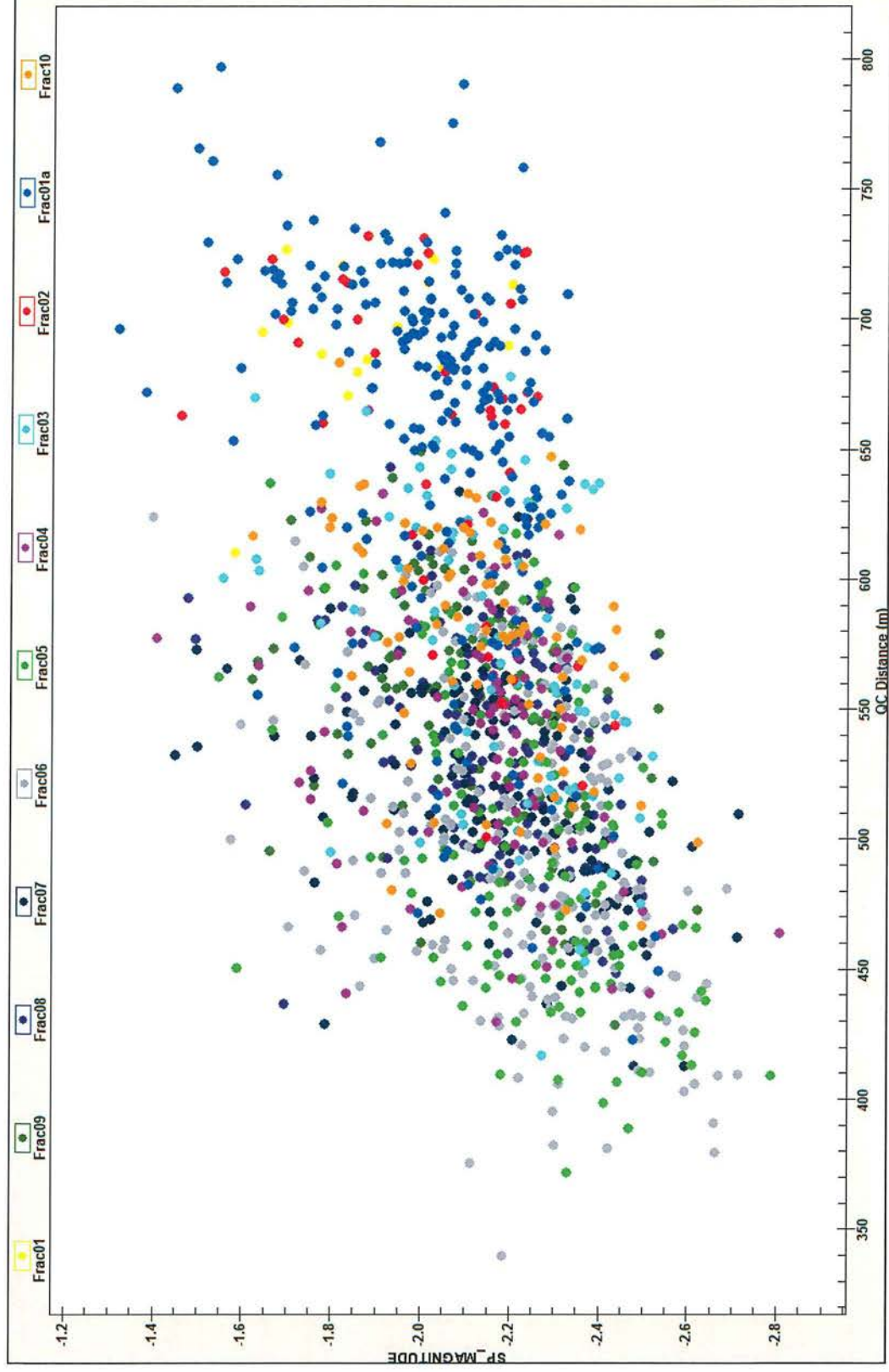


Microseismic Services
Image·Interpret·Integrate



Schlumberger

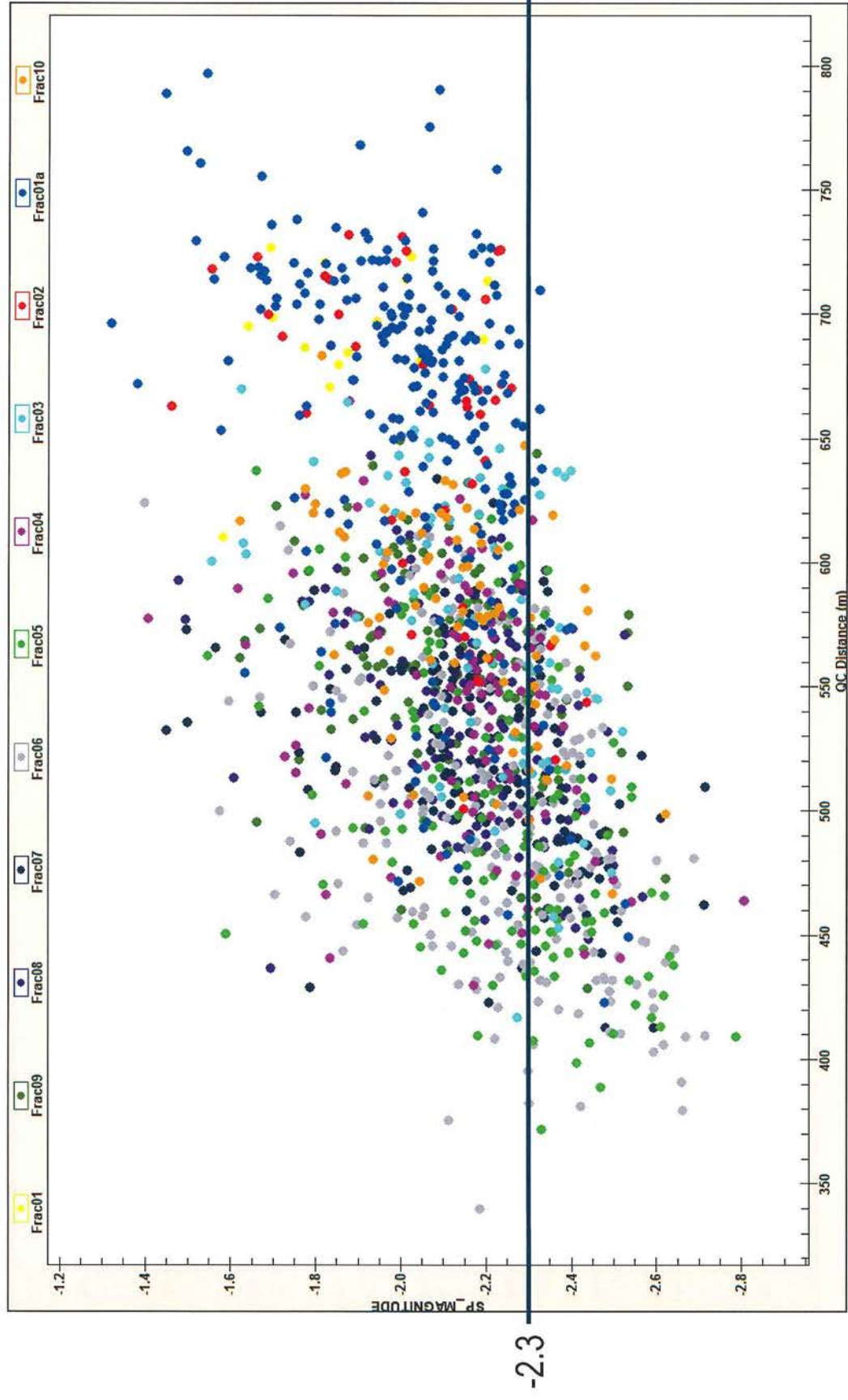
Magnitude vs distance



Microseismic Services
Image·Interpret·Integrate

Schlumberger

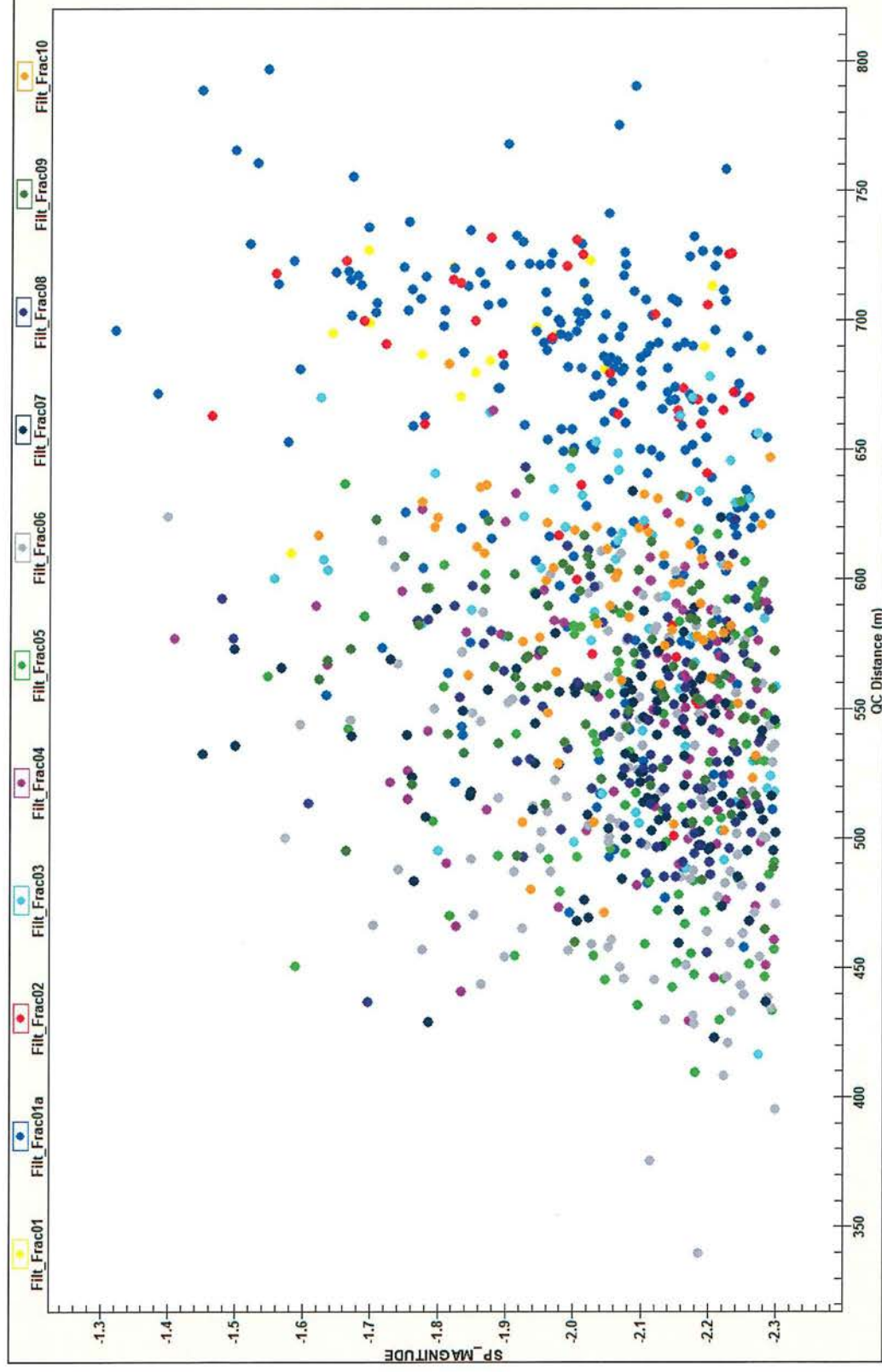
Magnitude vs distance



Microseismic Services
Image Interpret·Integrate

Schlumberger

Magnitude vs distance filtered



Microseismic Services
Image·Interpret·Integrate



Schlumberger

II. Completions Daily Reports

Daily Morning Report

COPRC LOON CREEK O-06 65-10 127-00

Report #: 1
Report Date: 1/30/2014
Final Job Status:
Final Report? Yes

WELL HEADER INFORMATION

Country CANADA	State/Province N.W.T.	Region / Division WCBU	District NEW VENTURES	Field Name Loon	Field Code 0579
Surface Legal Location O-6 65-10 127-00		API / UWI 200/O-06 6510 127000		License No. EL 470	
Orig KB/RT (m) 257.60	Ground Elevation (m) 252.40	KB-Grd (m) 5.20	KB-CF (m) 4.87	KB-TF (m) 4.22	Total Depth (mKB) 1,856.00
					PBTD (All) (mKB) Original Hole - 1,841.50

JOB INFORMATION

Job Category WELL INTERVENTION	Primary Job Type MICROSEISMIC MONITORING	Secondary Job Type RIGLESS	Total Field Estimate (Cost) 725,593.50
Objective Microseismic Monitoring			
Actual Start Date 1/30/2014 07:30	End Date 2/17/2014 21:00	Abandon Date	Responsible Grp 1 coved
		Responsible Grp 2 lagartn	Responsible Grp 3

AFE COST SUMMARY

AFE / RFE / Maint.# 10359371	Total AFE Amount (Cost) 1,190,100.00	Total AFE + Supp Amount (Cost) 1,190,100.00	Total Field Estimate (Cost) 725,593.50	AFE-Field Estimate (Cost) 464,506.50
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DAILY INFORMATION

Report Start Date 1/30/2014 07:30	Report End Date 1/30/2014 19:30	Daily Cost Total (Cost) 47,646.00	Cumulative Cost (Cost) 47,646.00	Personnel Regular Hours (hr) 91.00
Daily Contacts				Rig
Tubing Pressure (kPa)	Casing Pressure (kPa) 0	Weather overcast	Temperature (°C) -20	Lease Condition Snow Covered

Last 24hr Summary

Attended main safety meeting with medics and all services. All workers filled out medical forms. Travel to location with services. Held PJHA 01302014C with Schlumberger, Canol, IES, Peregrine on hazard associated with tasks to be performed. Perform lease walk around with services prior to spotting equipment. Remove tarps from heating wellhead. Check well pressures (slight vac). IES removed master valve, installed adapter flange and schlumberger flange using genie and crane. Spot, rig in Schlumberger E-line truck c/w full lube, bops and tool trap, picker and pressure truck. Purge and pressure test lube with propylene glycol. RIH with 154.5mm gauge ring/ccl. Tag top to Owens X-span csg patch at 1690.9mkb. Fluid level @ 80m. Log collars on way up to correlate. Did not see any restrictions on way in or out of hole. Rig off lube and secure well for night.

24hr Forecast

RIH set first plug 2m above upper csg patch @ 1690.56mkb. RIH set second plug 10m above top of first plug. Rig out services.

DAILY TIME LOG

Start Time	End Time	Dur (hr)	Time P.T.-X	Operation
07:30	08:30	1.00	P	Attended main safety meeting with all services and medics. Fill out medical information forms.
08:30	09:30	1.00	P	Travel to location with services. Tool hand went to drilling rig to retrieve plugs and adapter flange. Held PJHA 01302014C with Schlumberger, Canol picker, Peregrine pressure truck, IES on removal of master valve and installing flanges using genie, wireline work hazards. Checked all workers for valid tickets (good). Performed lease walk around with services prior to spotting equipment.
09:30	10:30	1.00	P	Removed tarps from wellhead from heating wellhead prior 2 days. Chainlink fence was also removed prior. Check well pressures, slight vac. Remove chain and padlock from well. Ensure 10k gatevalve closed and no trapped pressure between valves. IES/Schlumberger removed master valve, installed adapter flange and Schlumberger flange using genie and picker.
10:30	14:00	3.50	P	Schlumberger assemble full 7 inch lubricator with bops and tool trap. Assemble tool string c/w 154.4mm gauge ring and ccl. Had some troubles assembling lube due to cold weather and hard to assemble. Install full lubricator onto wellhead.
14:00	15:30	1.50	P	Purge and pressure test lube with propylene glycol to 1.4 and 7mpa. All connections on lube and wellhead tested good. Had a small leak off at packoff head rubber due to cold rubber. Was not able to achieve a flatline pressure test. Talked with superintendent said it was ok to continue.
15:30	18:00	2.50	P	RIH with 154.4mm gauge ring and ccl. Tag fluid top at 80m. Continue down to top of Owens x-span casing patch. Tag top of patch at 1690.9mkb. Log collars up to calibrate. Collar above @ 1685.5mkb. Did not see any restrictions on the way in or out of hole.
18:00	19:30	1.50	P	Rig off and lay down lubricator. Break down tool string to prep for plug run. Break down pack off head to check for any deficiencies (none found). Rig down picker and pressure truck. Cap and secure well. Tarp in and supply heat to wellhead, packoff head and plugs for morning.

FLUID SUMMARY

Fluid	To lease (m³)	From lease (m³)	To well (m³)	From well (m³)	Left to recover (m³)

DAILY COST

BU Desc	Vendor	Activity Code	Amount (Cost)
Electric Line Servs on Drilling Ops.	CANOL OILFIELD SERVICES INC	K100	3,960.00
Pressure Truck/Hot Oiler	PEREGRINE PRESSURE TESTING LTD	S990	10,550.00
Welltesting (Eqpmt,Srvcs,PTA,Gov't Subs)	ROKE TECHNOLOGIES LTD	M220	1,850.00
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	5,560.00
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	5,560.00
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	5,560.00

Daily Morning Report

COPRC LOON CREEK O-06 65-10 127-00

Report #: 1
 Report Date: 1/30/2014
 Final Job Status:
 Final Report? Yes

DAILY COST

BU Desc	Vendor	Activity Code	Amount (Cost)
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	8,306.00
Wellsite Supervision & Engineering	TECTONIC ENERGY CONSULTING INC	T130	6,300.00

CUMULATIVE JOB FLARED GAS BY ZONE

Zone	Volume Gas Total (E3m³)
------	-------------------------

PERFORATIONS

Date	Zone	Top (mKB)	Btm (mKB)	Shot Dens (shots/m)	Current Status
3/2/2013	Basal Lower Canol, Ori...	1,769.00	1,770.00	20.0	Suspended
3/3/2013	Middle Lower Canol, O...	1,727.00	1,728.00	20.0	Suspended
3/3/2013	Upper Lower Canol, Or...	1,692.00	1,693.00	20.0	Suspended

Daily Morning Report

COPRC LOON CREEK O-06 65-10 127-00

Report #: 2
Report Date: 1/31/2014
Final Job Status:
Final Report? Yes

WELL HEADER INFORMATION

Country CANADA	State/Province N.W.T.	Region / Division WCBU	District NEW VENTURES	Field Name Loon	Field Code 0579
Surface Legal Location O-6 65-10 127-00		API / UWI 200/O-06 6510 127000		License No. EL 470	
Orig KB/RT (m) 257.60	Ground Elevation (m) 252.40	KB-Grd (m) 5.20	KB-CF (m) 4.87	KB-TF (m) 4.22	Total Depth (mKB) 1,856.00 PBDT (All) (mKB) Original Hole - 1,841.50

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Objective Microseismic Monitoring			
Actual Start Date 1/30/2014 07:30	End Date 2/17/2014 21:00	Abandon Date	Responsible Grp 1 coved Responsible Grp 2 lagartn Responsible Grp 3

A/E COST SUMMARY

A/E / R/E / Maint.# 10359371	Total A/E Amount (Cost) 1,190,100.00	Total A/E + Supp Amount (Cost) 1,190,100.00	Total Field Estimate (Cost) 725,593.50	A/E-Field Estimate (Cost) 464,506.50
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DAILY INFORMATION

Report Start Date 1/31/2014 07:30	Report End Date 1/31/2014 21:00	Daily Cost Total (Cost) 74,337.00	Cumulative Cost (Cost) 121,983.00	Personnel Regular Hours (hr) 91.00
Daily Contacts				Rig
Tubing Pressure (kPa)	Casing Pressure (kPa) 0	Weather overcast	Temperature (°C) -10	Lease Condition Snow Covered

Last 24hr Summary

Held PJHA #832126 with Schlumberger, Canol picker and Peregrine pressure truck on hazards with overhead loads, setting wireline plugs and pressure testing. Spot, rig in services. RIH with Smith M-CW 10K, 159.4mm retrievable bridge plug c/w HSN elements. 1 shear pin set for 2000lbs. Log onto and confirm depth. Set Plug @ 1688.20mkb at 13:15pm.
Re-build firing head. Make up second plug and tool string. RIH with second Smith M-CW 10K, 159.4mm retrievable bridge plug c/w HSN elements. 1 shear pin set for 2000lbs. Log onto and confirm depth. Set plug @ 1678.80mkb. Rig down E-line, install master valve and secure well. Install fence around well.

24hr Forecast

Break down E-line lube and tool string. Finish rig out E-line, clean up and secure lease.

DAILY TIME LOG

Start Time	End Time	Dur (hr)	Time P-T-X	Operation
07:30	08:30	1.00	P	Held PJHA #832126 with Schlumberger, Canol picker and Peregrine pressure truck on hazards with overhead loads, setting wireline plugs and pressure testing. Perform daily lease walk around inspections and checks. Check and record well pressures. (slight vac). Picker showed up at 08:00am, held PJHA meeting with picker operator. Check and validate all training certificates. (good).
08:30	10:45	2.25	P	Spot, rig in Canol picker and Peregrine pressure truck. Ensure all catch trays are in place under engines. Make up E-line tool string and full lubricator complete with bops and tool trap.
10:45	12:00	1.25	P	Peregrine fill and pressure test lube with propylene glycol to 1.4 and 7mpa. Had same issue as previous day. No leaks on lube but rubber in pack off head was leaking. (pack off head was torn down and checked previous night and no deficiencies were found). Talked to superintendent and was ok to proceed. Bleed back pressure and test fluid to pressure truck.
12:00	14:30	2.50	P	RIH with Smith M-CW 10k retrievable bridge plug. 159.4mm OD c/w HSN elements. 1 Shear pin set for 2000lbs. Log onto and confirm depth. Set plug @ 1688.20mkb CE Top @ 1687.50mkb Bottom @ 1688.9mkb. Top of csg patch was tagged @ 1690.9mkb previous day. CSG collar above plug @ 1685.5mkb Plug was set at 13:15pm. Lost 300lbs weight after plug set. Set in 60 seconds POOH E-line. Fluid level @ 80m
14:30	16:00	1.50	P	Re-build firing head. Make up second M-CW retrievable plug. Pick up tools into lube.
16:00	17:00	1.00	T	When picking up tools into lube the tools snagged on the lube causing the stroke to come out and engage the slips on the plug. Lay down tool string, repair setting tool and ensure in good working order. install new plug. Hoist tool string into lube and install on well.
17:00	17:30	0.50	P	Peregrine pressure truck purge and pressure test lube with propylene glycol to 1.4 and 7mpa. No leaks on lube connections but pack off head rubber had a leak.
17:30	19:30	2.00	P	RIH with second Smith M-CW 10k retrievable bridge plug. 159.4mm OD c/w HSN elements. 1 Shear pin set for 2000lbs. Log onto and confirm depth. Set plug @ 1676.80mkb CE Top @ 1676.10mkb Bottom @ 1677.5mkb. CSG collar above plug @ 1672.0mkb Plug was set at 18:45pm. Lost 230lbs weight after plug set. Set in 50 seconds. POOH E-line. Fluid level @ 80m

Daily Morning Report

COPRC LOON CREEK O-06 65-10 127-00

Report #: 2
 Report Date: 1/31/2014
 Final Job Status:
 Final Report? Yes

DAILY TIME LOG

Start Time	End Time	Dur (hr)	Time P-T-X	Operation
19:30	21:00	1.50	P	Lay down E-line lube, rig off bops, tool trap, E-line flange and adaptor flange. Install master valve. Ensure wellhead secured, install fence around wellhead. Tidy tools and equipment on lease.

FLUID SUMMARY

Fluid	To lease (m³)	From lease (m³)	To well (m³)	From well (m³)	Left to recover (m³)

DAILY COST

BU Desc	Vendor	Activity Code	Amount (Cost)
Electric Line Servs on Drilling Ops.	CANOL OILFIELD SERVICES INC	K100	3,960.00
Pressure Truck/Hot Oiler	PEREGRINE PRESSURE TESTING LTD	S990	4,762.00
Welltesting (Eqpmt, Srvcs, PTA, Gov't Subs)	ROKE TECHNOLOGIES LTD	M220	1,850.00
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	21,320.00
Downhole Completion Equipment	SCHLUMBERGER CANADA LIMITED	C100	40,900.00
Wellsite Supervision & Engineering	TECTONIC ENERGY CONSULTING INC	T130	1,545.00

CUMULATIVE JOB FLARED GAS BY ZONE

Zone	Volume Gas Total (E3m³)

PERFORATIONS

Date	Zone	Top (mKB)	Blm (mKB)	Shot Dens (shots/m)	Current Status
3/2/2013	Basal Lower Canol, Ori...	1,769.00	1,770.00	20.0	Suspended
3/3/2013	Middle Lower Canol, O...	1,727.00	1,728.00	20.0	Suspended
3/3/2013	Upper Lower Canol, Or...	1,692.00	1,693.00	20.0	Suspended

Daily Morning Report

COPRC LOON CREEK O-06 65-10 127-00

Report #: 3
Report Date: 2/5/2014
Final Job Status:
Final Report? Yes

WELL HEADER INFORMATION

Country CANADA	State/Province N.W.T.	Region / Division WCBU	District NEW VENTURES	Field Name Loon	Field Code 0579
Surface Legal Location O-6 65-10 127-00		API / UWI 200/O-06 6510 127000		License No. EL 470	
Orig KB/RT (m) 257.60	Ground Elevation (m) 252.40	KB-Grd (m) 5.20	KB-CF (m) 4.87	KB-TF (m) 4.22	Total Depth (mKB) 1,856.00
					PBTD (All) (mKB) Original Hole - 1,841.50

JOB INFORMATION

Job Category WELL INTERVENTION	Primary Job Type MICROSEISMIC MONITORING	Secondary Job Type RIGLESS	Total Field Estimate (Cost) 725,593.50
Objective Microseismic Monitoring			
Actual Start Date 1/30/2014 07:30	End Date 2/17/2014 21:00	Abandon Date	Responsible Grp 1 coved
		Responsible Grp 2 lagartn	Responsible Grp 3

AFE COST SUMMARY

AFE / RFE / Maint.# 10359371	Total AFE Amount (Cost) 1,190,100.00	Total AFE + Supp Amount (Cost) 1,190,100.00	Total Field Estimate (Cost) 725,593.50	AFE-Field Estimate (Cost) 464,506.50
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DAILY INFORMATION

Report Start Date 2/5/2014 07:30	Report End Date 2/5/2014 18:00	Daily Cost Total (Cost) 112,969.80	Cumulative Cost (Cost) 234,952.80	Personnel Regular Hours (hr) 60.00
Daily Contacts WS Superintendent, Derrick Cove, 780-831-1314; WS Supervisor, Justin Minault, 403-391-0714; Engineer, Theron Lagarde,				Rig
Tubing Pressure (kPa)	Casing Pressure (kPa) 0	Weather Overcast	Temperature (°C) -21	Lease Condition Snow Covered

Last 24hr Summary

Move on Schlumberger Microseismic crew and equipment, Hold Pre-Job Safety meeting with all personnel, rig in and make up Microseismic tool string. RIH and conduct Vent flow Identification checks at depths as per program. Position final shuttle depths @ 1630.0 mKB (bottom) - 1300 mKB (Top), clamp off cable, secure well and rig out Crane.

24hr Forecast

Move in Veretas Surface Land Vibration equipment, conduct and record all findings.

DAILY TIME LOG

Start Time	End Time	Dur (hr)	Time P-T-X	Operation
07:30	08:00	0.50	P	Move Schlumberger Micro-Seismic equipment and Northern Crane onto location. Spot off to side of lease and conduct Pre-job safety meeting with all personnel. Review all personnel's tickets and CPC orientation, (all valid).
08:00	08:30	0.50	P	Spot equipment as per CPC. OH+S, and NEB Regulations.
08:30	11:00	2.50	P	Remove 7 1/16" 10K top section, install 7 1/16" 10K x 7 1/16" 5K DSI. Make up VSIT-12 Tool String and start in hole.
11:00	16:30	5.50	P	Conduct Function test at surface. O.K. RIH and correlate on depth with SLB COMP Neutron Log. Conduct Vent Identification stops at the following stations: #1 - 529.0 - 829.0 mKB #2 - 544.0 - 874.0 mKB #3 - 890.0 - 1220.0 mKB #4 - 905.0 - 1235.0 mKB #5 - 1250.0 - 1580.0 mKB #6 - 1265.0 - 1595.0 mKB
16:30	17:00	0.50	P	Shuttles positioned @ 1300.0 mKB (Top Shuttle) - 1630.0 mKB (bottom shuttle). Anchor tool and clamp cable.
17:00	17:30	0.50	P	Rig down crane, secure well and equipment. SDFN.

FLUID SUMMARY

Fluid	To lease (m³)	From lease (m³)	To well (m³)	From well (m³)	Left to recover (m³)

DAILY COST

BU Desc	Vendor	Activity Code	Amount (Cost)
Welltesting (Eqpmt,Srvcs,PTA,Gov't Subs)	ROKE TECHNOLOGIES LTD	M220	1,850.00
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	5,559.90
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	5,559.90
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	100,000.00

CUMULATIVE JOB FLARED GAS BY ZONE

Zone	Volume Gas Total (E3m³)

PERFORATIONS

Date	Zone	Top (mKB)	Btm (mKB)	Shot Dens (shots/m)	Current Status
3/2/2013	Basal Lower Canol, Ori...	1,769.00	1,770.00	20.0	Suspended
3/3/2013	Middle Lower Canol, O...	1,727.00	1,728.00	20.0	Suspended
3/3/2013	Upper Lower Canol, Or...	1,692.00	1,693.00	20.0	Suspended

Daily Morning Report

COPRC LOON CREEK O-06 65-10 127-00

Report #: 4
Report Date: 2/6/2014
Final Job Status:
Final Report? Yes

WELL HEADER INFORMATION

Country CANADA	State/Province N.W.T.	Region / Division WCBU	District NEW VENTURES	Field Name Loon	Field Code 0579
Surface Legal Location O-6 65-10 127-00		API / UWI 200/O-06 6510 127000		License No. EL 470	
Orig KB/RT (m) 257.60	Ground Elevation (m) 252.40	KB-Grd (m) 5.20	KB-CF (m) 4.87	KB-TF (m) 4.22	Total Depth (mKB) 1,856.00
					PBTD (All) (mKB) Original Hole - 1,841.50

JOB INFORMATION

Job Category WELL INTERVENTION	Primary Job Type MICROSEISMIC MONITORING	Secondary Job Type RIGLESS	Total Field Estimate (Cost) 725,593.50
Objective Microseismic Monitoring			
Actual Start Date 1/30/2014 07:30	End Date 2/17/2014 21:00	Abandon Date	Responsible Grp 1 coved
		Responsible Grp 2 lagartn	Responsible Grp 3

AFE COST SUMMARY

AFE / RFE / Maint.# 10359371	Total AFE Amount (Cost) 1,190,100.00	Total AFE + Supp Amount (Cost) 1,190,100.00	Total Field Estimate (Cost) 725,593.50	AFE-Field Estimate (Cost) 464,506.50
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DAILY INFORMATION

Report Start Date 2/6/2014 00:00	Report End Date 2/17/2014 07:30	Daily Cost Total (Cost) 204,969.80	Cumulative Cost (Cost) 439,922.60	Personnel Regular Hours (hr) 76.00
Daily Contacts WS Superintendent, Derrick Cove, 780-831-1314; WS Supervisor, Justin Minault, 403-391-0714; Engineer, Theron Lagarde,				Rig
Tubing Pressure (kPa)	Casing Pressure (kPa)	Weather	Temperature (°C)	Lease Condition Snow Covered

Last 24hr Summary

Monitor micro seismic activity during completions frac operations on E-76 65-10 126-45.

24hr Forecast

Pull out of hole geophones and rig out wireline equipment

DAILY TIME LOG

Start Time	End Time	Dur (hr)	Time P-T- X	Operation
00:00	07:30	271.50	P	Monitored down hole micro seismic activity during completions frac operations on E-76 65-10 126-45.

FLUID SUMMARY

Fluid	To lease (m³)	From lease (m³)	To well (m³)	From well (m³)	Left to recover (m³)

DAILY COST

BU Desc	Vendor	Activity Code	Amount (Cost)
Welltesting (Eqpmt,Srvcs,PTA,Gov't Subs)	ROKE TECHNOLOGIES LTD	M220	1,850.00
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	5,559.90
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	5,559.90
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	192,000.00

CUMULATIVE JOB FLARED GAS BY ZONE

Zone	Volume Gas Total (E3m³)

PERFORATIONS

Date	Zone	Top (mKB)	Btm (mKB)	Shot Dens (shots/m)	Current Status
3/2/2013	Basal Lower Canol, Ori...	1,769.00	1,770.00	20.0	Suspended
3/3/2013	Middle Lower Canol, O...	1,727.00	1,728.00	20.0	Suspended
3/3/2013	Upper Lower Canol, Or...	1,692.00	1,693.00	20.0	Suspended

Daily Morning Report

COPRC LOON CREEK O-06 65-10 127-00

Report #: 5
Report Date: 2/17/2014
Final Job Status:
Final Report? Yes

WELL HEADER INFORMATION

Country CANADA	State/Province N.W.T.	Region / Division WCBU	District NEW VENTURES	Field Name Loon	Field Code 0579
Surface Legal Location O-6 65-10 127-00	API / UWI 200/O-06 6510 127000			License No. EL 470	
Orig KB/RT (m) 257.60	Ground Elevation (m) 252.40	KB-Grd (m) 5.20	KB-CF (m) 4.87	KB-TF (m) 4.22	Total Depth (mKB) 1,856.00
					PBTD (All) (mKB) Original Hole - 1,841.50

JOB INFORMATION

Job Category WELL INTERVENTION	Primary Job Type MICROSEISMIC MONITORING	Secondary Job Type RIGLESS	Total Field Estimate (Cost) 725,593.50
Objective Microseismic Monitoring			
Actual Start Date 1/30/2014 07:30	End Date 2/17/2014 21:00	Abandon Date	Responsible Grp 1 coved
		Responsible Grp 2 lagartn	Responsible Grp 3

AFE COST SUMMARY

AFE / RFE / Maint.# 10359371	Total AFE Amount (Cost) 1,190,100.00	Total AFE + Supp Amount (Cost) 1,190,100.00	Total Field Estimate (Cost) 725,593.50	AFE-Field Estimate (Cost) 464,506.50
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DAILY INFORMATION

Report Start Date 2/17/2014 07:30	Report End Date 2/17/2014 19:30	Daily Cost Total (Cost) 285,670.90	Cumulative Cost (Cost) 725,593.50	Personnel Regular Hours (hr) 60.00
Daily Contacts WS Superintendent, Derrick Cove, 780-831-1314; WS Supervisor, Justin Minault, 403-391-0714; Engineer, Theron Lagarde,				Rig
Tubing Pressure (kPa)	Casing Pressure (kPa)	Weather Overcast	Temperature (°C) -32	Lease Condition Snow Covered

Last 24hr Summary

Pulled out of the hole geophones. Installed wellhead and secured the well. Re-installed vent nanny onto SCVL.

24hr Forecast

Monitor SCVL flow through Roke vent nanny.

DAILY TIME LOG

Start Time	End Time	Dur (hr)	Time P-T-X	Operation
07:30	19:30	12.00	P	Held a daily safety and operations meeting. Spotted and readied crane. Checked pressure: SICP: 0 kPa. Pulled out of the hole geophones. Removed wireline flange and installed wellhead top sections. Secured well. Wellhead chained and locked (combo 6127).

FLUID SUMMARY

Fluid	To lease (m³)	From lease (m³)	To well (m³)	From well (m³)	Left to recover (m³)

DAILY COST

BU Desc	Vendor	Activity Code	Amount (Cost)
Surface Completion Equipment Rental	CORNERSTONE OILFIELD SERVICES LTD	Q300	7,920.00
Surface Completion Equipment Rental	CORNERSTONE OILFIELD SERVICES LTD	Q300	7,920.00
Surface Completion Equipment Rental	CORNERSTONE OILFIELD SERVICES LTD	Q300	1,500.00
Surface Completion Equipment Rental	CORNERSTONE OILFIELD SERVICES LTD	Q300	4,760.00
Surface Completion Equipment Rental	CORNERSTONE OILFIELD SERVICES LTD	Q300	4,760.00
Trucking/Hauling/ Hot Shot Services	MCKAY EXPEDITING AND LOGISTICS LTD	P100	24,530.00
Trucking/Hauling/ Hot Shot Services	MCKAY EXPEDITING AND LOGISTICS LTD	P100	2,531.10
Trucking/Hauling/ Hot Shot Services	NCSG CRANE & HEAVY HAUL SERVICES LTD	P100	26,780.00
Welltesting (Eqpmt,Srvcs,PTA,Gov't Subs)	ROKE TECHNOLOGIES LTD	M220	1,850.00
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	5,559.90
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	5,559.90
Electric Line Servs on Drilling Ops.	SCHLUMBERGER CANADA LIMITED	K100	192,000.00

CUMULATIVE JOB FLARED GAS BY ZONE

Zone	Volume Gas Total (E3m³)

PERFORATIONS

Date	Zone	Top (mKB)	Btm (mKB)	Shot Dens (shots/m)	Current Status
3/2/2013	Basal Lower Canol, Ori...	1,769.00	1,770.00	20.0	Suspended
3/3/2013	Middle Lower Canol, O...	1,727.00	1,728.00	20.0	Suspended
3/3/2013	Upper Lower Canol, Or...	1,692.00	1,693.00	20.0	Suspended

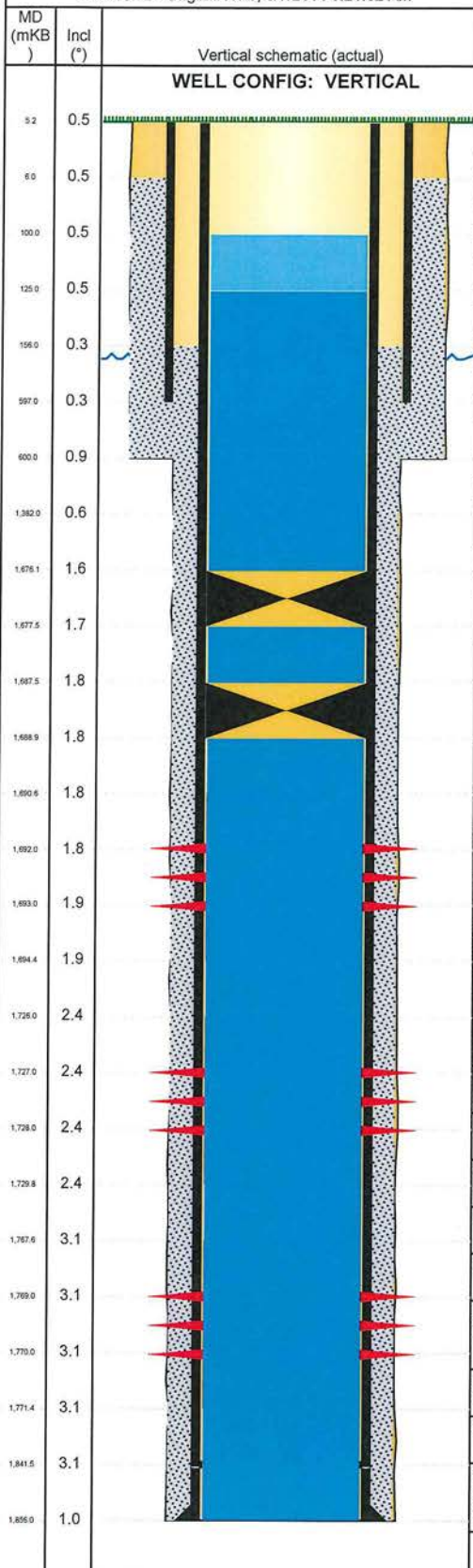
III. Final Completions Schematic

Current Schematic

COPRC LOON CREEK O-06 65-10 127-00

Surface Legal Location O-6 65-10 127-00		API / UWI 200/O-06 6510 127000		License No. EL 470	
Country CANADA	State/Province N.W.T.	Region / Division WCBU	District NEW VENTURES	Field Name Loon	Field Code 0579
Orig KB/RT (m) 257.60	Ground Elevation (m) 252.40	KB-Ground Distance (m) 5.20	KB-CF (m) 4.87	KB-TF (m) 4.22	Total Depth (mKB) 1,856.00

VERTICAL - Original Hole, 5/7/2014 9:21:02 AM



WELLHEADS

Type Screw On Bowl	Install Date 1/31/2013				
Des Screw On Casing Bowl	Make STREAM FLOW	Model SOW	WP (kPa) 34,500	Top Ring Gasket	Bore Min (mm)

CASING STRINGS

Csg Des	OD (mm)	Wt/Len (kg/m)	Grade	Top Thread	Set Depth (mKB)
Surface	244.5	53.574	K-55	LTC	597.00
Production	177.8	38.692	P-110	LTC	1,856.00

PBTDs

Date	Type	Depth (mKB)	KO MD (mKB)	TD (max) (mKB)
2/26/2013	Float Collar	1,841.50		1,856.00

PERFORATIONS

Date	Top (mKB)	Botm (mKB)	Zone	Type	Current Status
3/3/2013	1,692.00	1,693.00	Upper Lower...	Perforated	Suspended
3/3/2013	1,727.00	1,728.00	Middle Lower...	Perforated	Suspended
3/2/2013	1,769.00	1,770.00	Basal Lower...	Perforated	Suspended

OTHER IN HOLE

Run Date	Description	Top Depth (mKB)	Bottom Depth (mKB)
3/22/2013	Casing Patch	1,767.56	1,771.43
OD (mm)	ID (mm)	Make	Model
155.2	139.7	Core-lab	X-Span

Comment

Isolating ``Basal`` Lower Canol Perforations from 1769.0 to 1770.0 mKB

Run Date	Description	Top Depth (mKB)	Bottom Depth (mKB)
3/22/2013	Casing Patch	1,725.96	1,729.83
OD (mm)	ID (mm)	Make	Model
155.2	139.7	Core-lab	X-Span

Comment

Isolating ``Middle`` Lower Canol Perforations from 1727.0 to 1728.0 mKB

Run Date	Description	Top Depth (mKB)	Bottom Depth (mKB)
3/22/2013	Casing Patch	1,690.56	1,694.43
OD (mm)	ID (mm)	Make	Model
155.2	139.7	Core-lab	X-Span

Comment

Isolating ``Upper`` Lower Canol Perforations from 1692.0 to 1693.0 mKB

Run Date	Description	Top Depth (mKB)	Bottom Depth (mKB)
3/22/2013	Barrier - Fluid	125.00	1,856.00
OD (mm)	ID (mm)	Make	Model
155.2		Fresh water	TDS<4000 ppm

Comment

Fresh water containing TDS<4000 ppm

Run Date	Description	Top Depth (mKB)	Bottom Depth (mKB)
3/22/2013	Barrier - Fluid	100.00	125.00
OD (mm)	ID (mm)	Make	Model
155.2		Propylene Glycol	Mixed with 30 % H2O

Comment

Propylene Glycol Mixture to winterize wellhead

Run Date	Description	Top Depth (mKB)	Bottom Depth (mKB)
1/31/2014	Retrievable Bridge Plug	1,687.50	1,688.90
OD (mm)	ID (mm)	Make	Model
159.4		Smith	M-CW

Comment

Smith M-CW retrievable bridge plug. Pinned for slickline retrieval. 1 pin @ 2000lbs shear. CE @ 1688.20mkb

Run Date	Description	Top Depth (mKB)	Bottom Depth (mKB)
1/31/2014	Retrievable Bridge Plug	1,676.10	1,677.50
OD (mm)	ID (mm)	Make	Model
159.4		Smith	M-CW

Comment

Smith M-CW retrievable bridge plug. Pinned for slickline retrieval. 1 pin @ 2000lbs shear. CE @ 1676.8mkb

IV. Completions Daily Activity and Cost Summary

Daily Activity and Cost Summary

COPRC LOON CREEK O-06 65-10 127-00

Job Category WELL INTERVENTION	Primary Job Type MICROSEISMIC MONITORING	Secondary Job Type RIGLESS	Actual Start Date 1/30/2014 07:30	End Date 2/17/2014 21:00
AFE / RFE / Maint.# 10359371	Total Job AFE Amount (Cost) 1,190,100.00	AFE+Supp Amt (Cost) 1,190,100.00	Total Field Estimate (Cost) 725,593.50	AFE-Field Estimate (Cost) 464,506.50

Objective
Microseismic Monitoring

Contractor	Rig Name/No	Rig Type
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DAILY ACTIVITY & COST SUMMARY

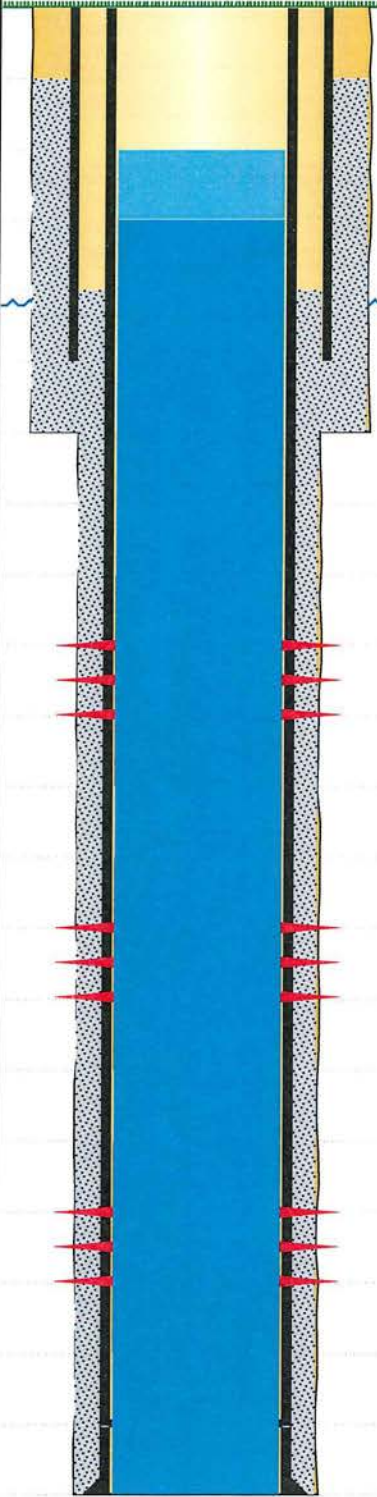
Report No.	Start Date	Daily Cost Total (Cost)	Cum Cost (Cost)	Last 24hr Sum
1	1/30/2014 07:30	47,646.00	47,646.00	Attended main safety meeting with medics and all services. All workers filled out medical forms. Travel to location with services. Held PJHA 01302014C with Schlumberger, Canol, IES, Peregrine on hazard associated with tasks to be performed. Perform lease walk around with services prior to spotting equipment. Remove tarps from heating wellhead. Check well pressures (slight vac). IES removed master valve, installed adapter flange and schlumberger flange using genie and crane. Spot, rig in Schlumberger E-line truck c/w full lube, bops and tool trap, picker and pressure truck. Purge and pressure test lube with propylene glycol. RIH with 154.5mm gauge ring/ccl. Tag top to Owens X-span csg patch at 1690.9mkb. Fluid level @ 80m. Log collars on way up to correlate. Did not see any restrictions on way in or out of hole. Rig off lube and secure well for night.
2	1/31/2014 07:30	74,337.00	121,983.00	Held PJHA #832126 with Schlumberger, Canol picker and Peregrine pressure truck on hazards with overhead loads, setting wireline plugs and pressure testing. Spot, rig in services. RIH with Smith M-CW 10K , 159.4mm retrievable bridge plug c/w HSN elements. 1 shear pin set for 2000lbs. Log onto and confirm depth. Set Plug @ 1688.20mkb at 13:15pm. Re-build firing head. Make up second plug and tool string. RIH with second Smith M-CW 10K , 159.4mm retrievable bridge plug c/w HSN elements. 1 shear pin set for 2000lbs. Log onto and confirm depth. Set plug @1678.80mkb. Rig down E-line, install master valve and secure well. Install fence around well.
3	2/5/2014 07:30	112,969.80	234,952.80	Move on Schlumberger Microseismic crew and equipment, Hold Pre-Job Safety meeting with all personnel, rig in and make up Microseismic tool string. RIH and conduct Vent flow Identification checks at depths as per program. Position final shuttle depths @ 1630.0 mKB (bottom) - 1300 mKB (Top), clamp off cable, secure well and rig out Crane.
4	2/6/2014 00:00	204,969.80	439,922.60	Monitor micro seismic activity during completions frac operations on E-76 65-10 126-45.
5	2/17/2014 07:30	285,670.90	725,593.50	Pulled out of the hole geophones. Installed wellhead and secured the well. Re-installed vent nanny onto SCVL.

V. Completions End of Job QC Summary

End Of Job QC Summary

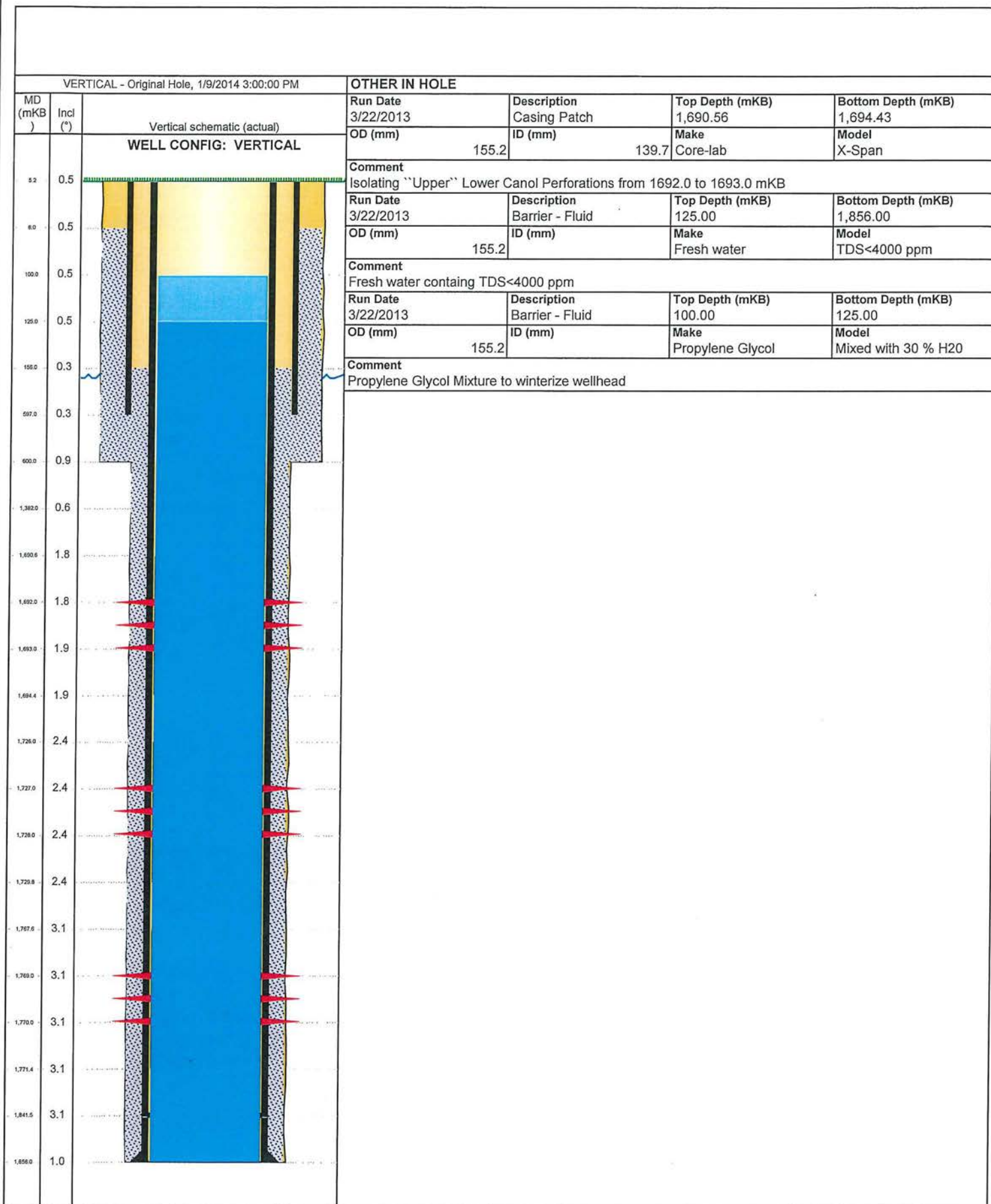
COPRC LOON CREEK O-06 65-10 127-00

Region / Division WCBU	District NEW VENTURES	Field Name Loon	API / UWI 200/O-06 6510 127000	License No. EL 470
Original KB/RT Elevation (m) 257.60	Ground Elevation (m) 252.40	KB-Ground Distance (m) 5.20	KB-Casing Flange Distance (m) 4.87	KB-Tubing Hanger Distance (m) 4.22

VERTICAL - Original Hole, 1/9/2014 3:00:00 PM			JOB INFORMATION									
MD (mKB)	Incl (°)	Vertical schematic (actual)	Job Category COMPLETIONS		Primary Job Type INITIAL COMPLETION		Actual Start Date 2/22/2013 08:00		End Date 1/9/2014 15:00			
		WELL CONFIG: VERTICAL 	Final Report? Yes		Final Job Status SUSPENDED		Responsible Grp 1 coved		Responsible Grp 2 lagartn			
			AFE / RFE / Maint.# 10345055		AFE+Supp Amt (Cost) 2,575,863.00		Total Field Estimate (Cost) 2,810,365.37		AFE-Field Estimate (Cost) -234,502.37			
			TIME LOG SUMMARY SUMMARIZED BY P-N-T									
			Time P-T-X		Dur (hr)			% Total Time (%)				
			P		811.75			97.74				
			T		18.75			2.26				
			RIG INFORMATION									
			Nabors, 414									
			Rig Accept Date 2/22/2013 15:00					Rig Release Date 3/24/2013 19:00				
			CASING STRINGS									
			Csg Des	OD (mm)	Wt/Len (kg/m)	Grade	Top Thread	Set Depth (mKB)				
			Surface	244.5	53.574	K-55	LTC	597.00				
			Production	177.8	38.692	P-110	LTC	1,856.00				
			CURRENT PBTD									
			Date		Type			Depth (mKB)				
			2/26/2013 00:00		Float Collar			1,841.50				
			SCVF (SURFACE CASING VENT FLOW)									
			Date		Typ			Detection				
			2/26/2013 09:30		SCVF			No				
			3/24/2013 12:00		SCVF			Yes				
			4/4/2013 07:30		SCVF			Yes				
			2/26/2014 12:00		SCVF			Yes				
			PERFORATIONS									
			Date	Top (mKB)	Btm (mKB)	Zone	Type	Current Status				
			3/3/2013	1,692.00	1,693.00	Upper Lower C...	Perforated	Suspended				
			3/3/2013	1,727.00	1,728.00	Middle Lower C...	Perforated	Suspended				
			3/2/2013	1,769.00	1,770.00	Basal Lower Ca...	Perforated	Suspended				
			STIMULATION AND TREATMENTS									
			Date	Stim Treat Co	Type	Proppant Design (kg)	Proppant Frm (kg)	Zone				
			TUBING STRING									
			Tubing Description		Run Date	Pull Date	String Length (m)	Set Depth (mKB)				
			Comment									
			Jts	Item Des	OD Nominal (mm)	Nominal ID (mm)	Wt (kg/m)	Grade	Make	Model	Len (m)	Top (mKB)
			OTHER IN HOLE									
			Run Date 3/22/2013		Description Casing Patch		Top Depth (mKB) 1,767.56		Bottom Depth (mKB) 1,771.43			
			OD (mm) 155.2		ID (mm) 139.7		Make Core-lab		Model X-Span			
			Comment Isolating ``Basal`` Lower Canol Perforations from 1769.0 to 1770.0 mKB									
			Run Date 3/22/2013		Description Casing Patch		Top Depth (mKB) 1,725.96		Bottom Depth (mKB) 1,729.83			
			OD (mm) 155.2		ID (mm) 139.7		Make Core-lab		Model X-Span			
			Comment Isolating ``Middle`` Lower Canol Perforations from 1727.0 to 1728.0 mKB									

End Of Job QC Summary

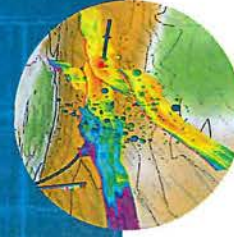
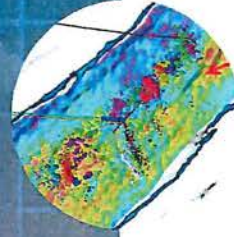
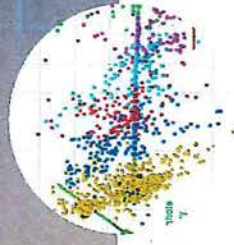
COPRC LOON CREEK O-06 65-10 127-00



Schlumberger

ConocoPhillips
Dodo Canyon E-76
Microseismic Results

Martin Haege, Richard Parker
April 30th 2014

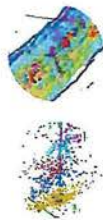


Microseismic Services
Image·Interpret·Integrate

Schlumberger

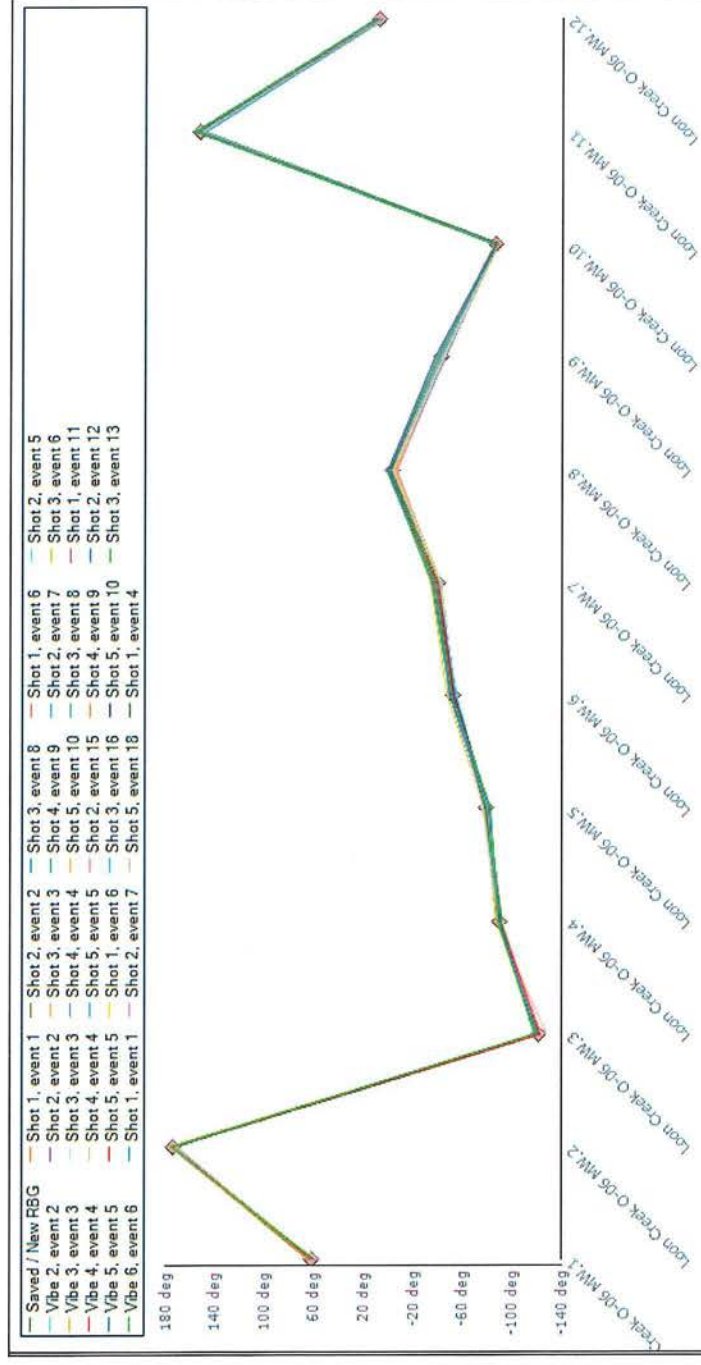
Content

- Casing vent identification
- Receiver orientation
- Velocity model building
- Microseismic events
- Waveform examples
- ESV



Microseismic Services
Image·Interpret·Integrate

Receiver orientation



New RBG std dev	
1.95	MW.1
1.74	MW.2
2.48	MW.3
1.15	MW.4
1.69	MW.5
1.69	MW.6
2.16	MW.7
2.69	MW.8
2.79	MW.9
1.10	MW.10
2.83	MW.11
2.26	MW.12

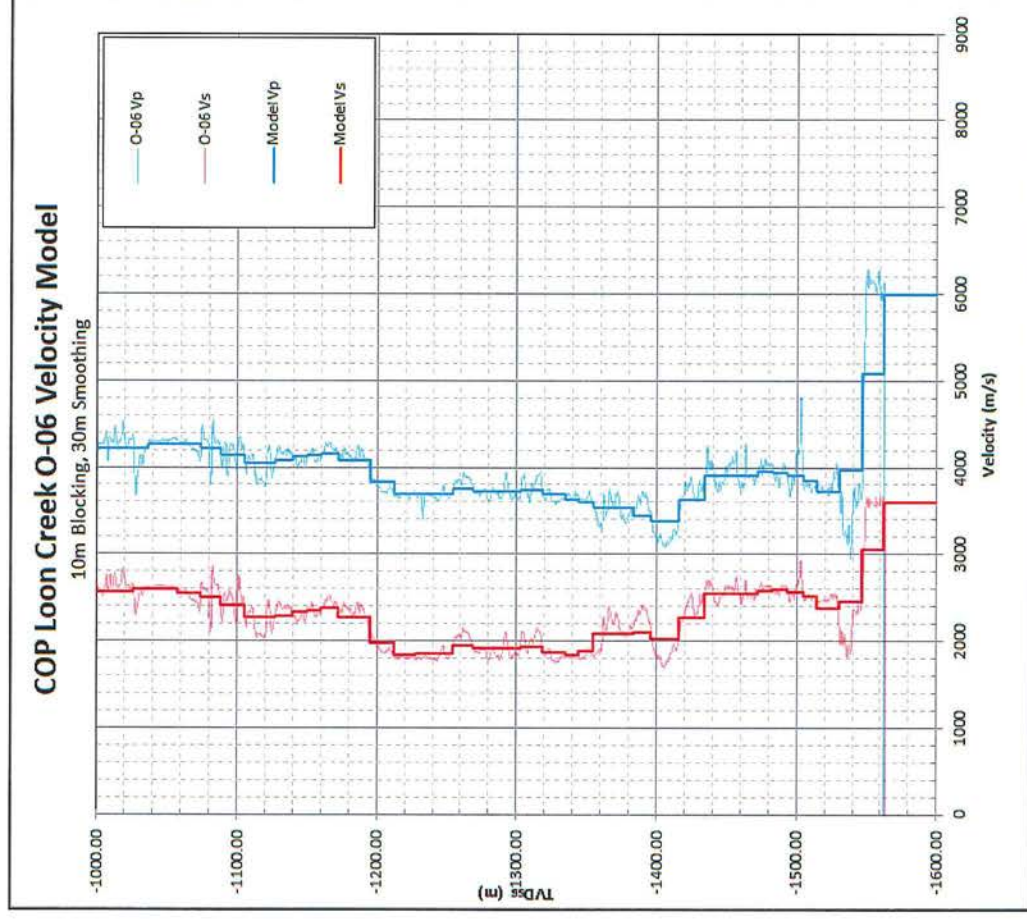


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Velocity Model Building: E-76

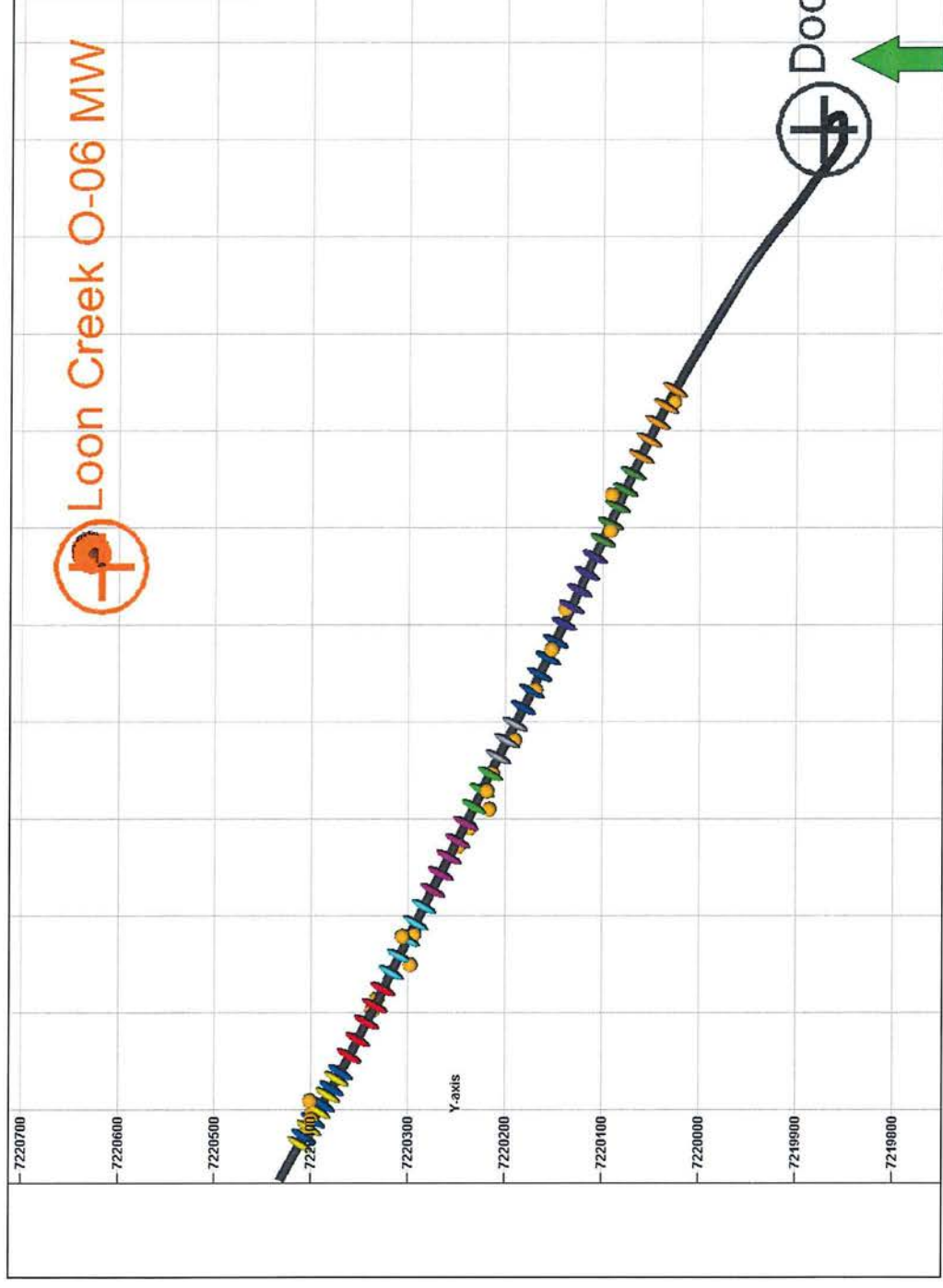
- Initial velocity model built from Loon Creek O-06 monitor well dipole sonic log
- Logs blocked with minimum thickness of 10m, smoothed at 30m



Microseismic Services
Image Interpret · Integrate

Schlumberger

Perfs (top view)

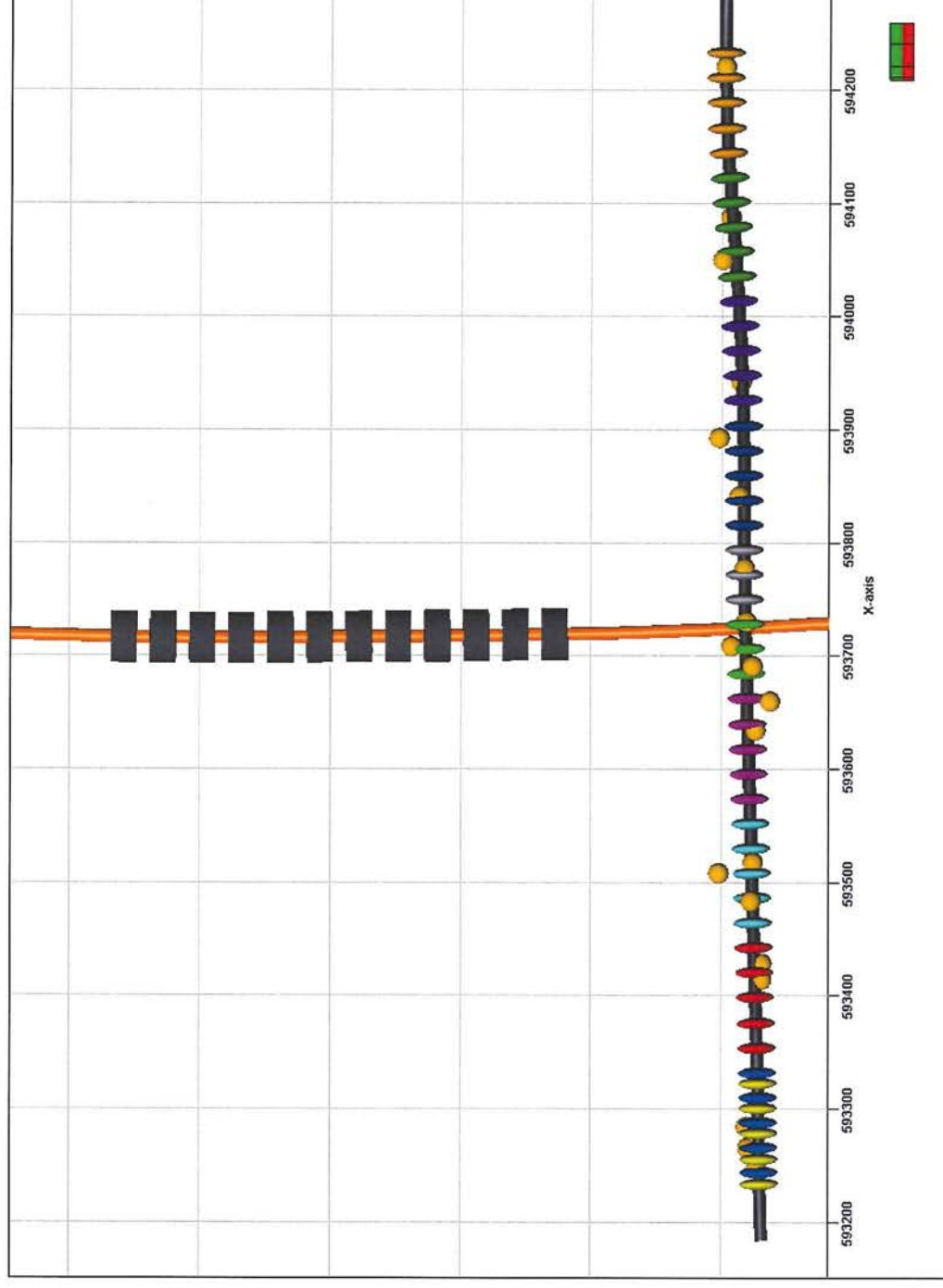


Microseismic Services
Image·Interpret·Integrate



Schlumberger

Perfs (side view, azimuth 30, deviation 90)



Microseismic Services
Image·Interpret·Integrate

Schlumberger

Perf shots

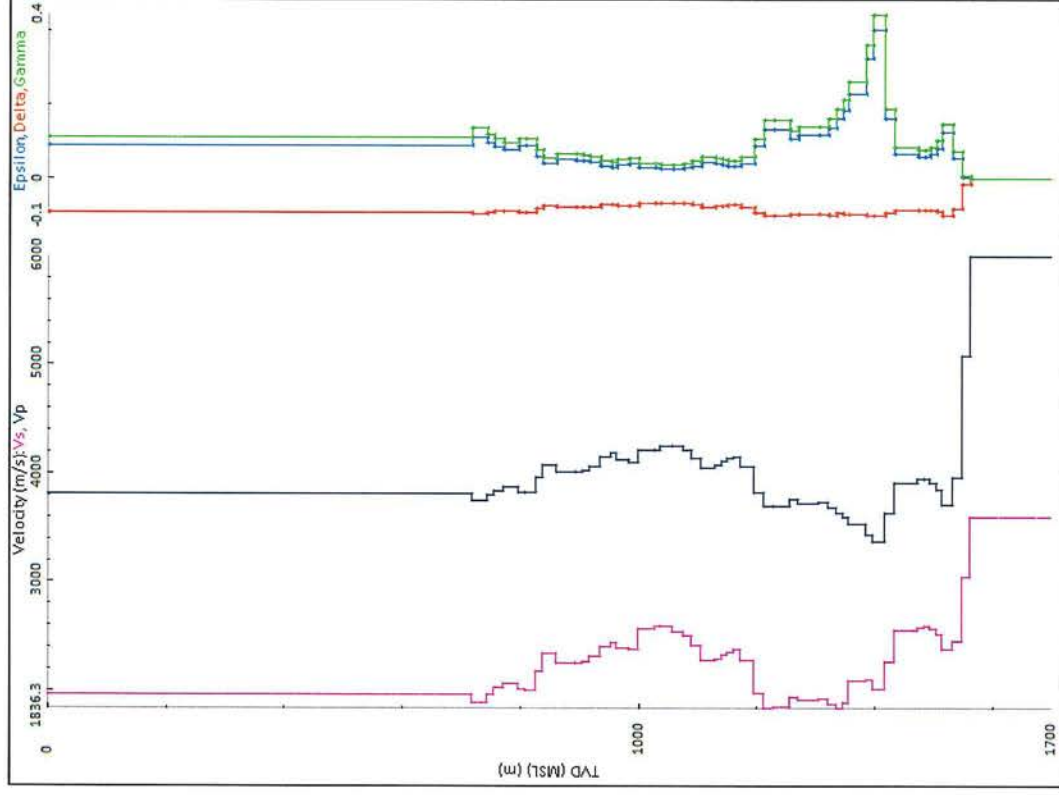
Stage #	Perf	Actual position			Relocated			Difference		
		Northing (m)	Easting (m)	Depth (m)	Northing (m)	Easting (m)	Depth (m)	dN (m)	dE (m)	dZ (m)
1	2	7220401.57	592981.40	-1528.83	7220405.40	592975.50	-1526.96	-3.83	5.90	-1.86
	3	7220392.11	592998.74	-1528.58	7220399.05	592996.96	-1525.71	-6.94	1.78	-2.87
1a	2	7220397.61	592989.21	-1528.72	7220399.54	592990.75	-1520.18	-1.93	-1.53	-8.54
	3	7220388.11	593005.66	-1528.48	7220400.93	593009.81	-1519.04	-12.82	-4.15	-9.43
2	4	7220334.22	593107.13	-1525.44	7220336.93	593102.68	-1530.58	-2.71	4.45	5.14
	5	7220326.01	593124.25	-1524.82	7220332.30	593114.37	-1530.77	-6.30	9.87	5.94
3	2	7220309.33	593158.36	-1523.81	7220297.96	593149.77	-1522.36	11.37	8.60	-1.45
	3	7220301.02	593175.43	-1523.30	7220305.99	593178.98	-1497.64	-4.98	-3.55	-25.66
	4	7220292.43	593192.37	-1522.76	7220293.90	593181.45	-1523.85	-1.46	10.92	1.09
4	4	7220249.63	593277.09	-1519.71	7220248.66	593271.86	-1525.90	0.96	5.22	6.19
	5	7220240.82	593295.03	-1519.15	7220236.72	593290.69	-1536.88	4.09	4.34	17.73
5	1	7220232.41	593312.05	-1518.68	7220216.53	593310.02	-1523.58	15.88	2.03	4.89
	2	7220224.05	593329.10	-1518.22	7220218.60	593329.00	-1507.34	5.45	0.10	-10.87
	3	7220215.94	593346.27	-1517.69	7220213.50	593347.51	-1518.66	2.44	-1.24	0.96
6	2	7220198.98	593380.26	-1517.14	7220190.99	593381.56	-1517.28	7.99	-1.30	0.14
7	2	7220173.51	593431.23	-1516.78	7220169.31	593432.97	-1513.14	4.20	-1.74	-3.64
	4	7220156.97	593465.42	-1516.41	7220152.46	593474.80	-1497.67	4.51	-9.37	-18.74
8	1	7220140.48	593500.75	-1515.74	7220138.32	593515.99	-1514.31	2.16	-15.24	-1.43
9	1	7220100.65	593586.81	-1510.85	7220092.46	593597.25	-1500.25	8.18	-10.44	-10.61
	3	7220085.32	593621.46	-1508.11	7220091.07	593634.16	-1506.25	-5.76	-12.70	-1.86
10	5	7220026.72	593741.67	-1501.69	7220027.25	593730.33	-1502.18	-0.53	11.34	0.49
							median	4.51	4.45	4.89



Microseismic Services
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Schlumberger

Velocity model calibration



example: stage 4

7 velocity models:

Epsilon: 0 – 0.43

Delta: -0.1 – 0.0

Gamma: 0 – 0.47

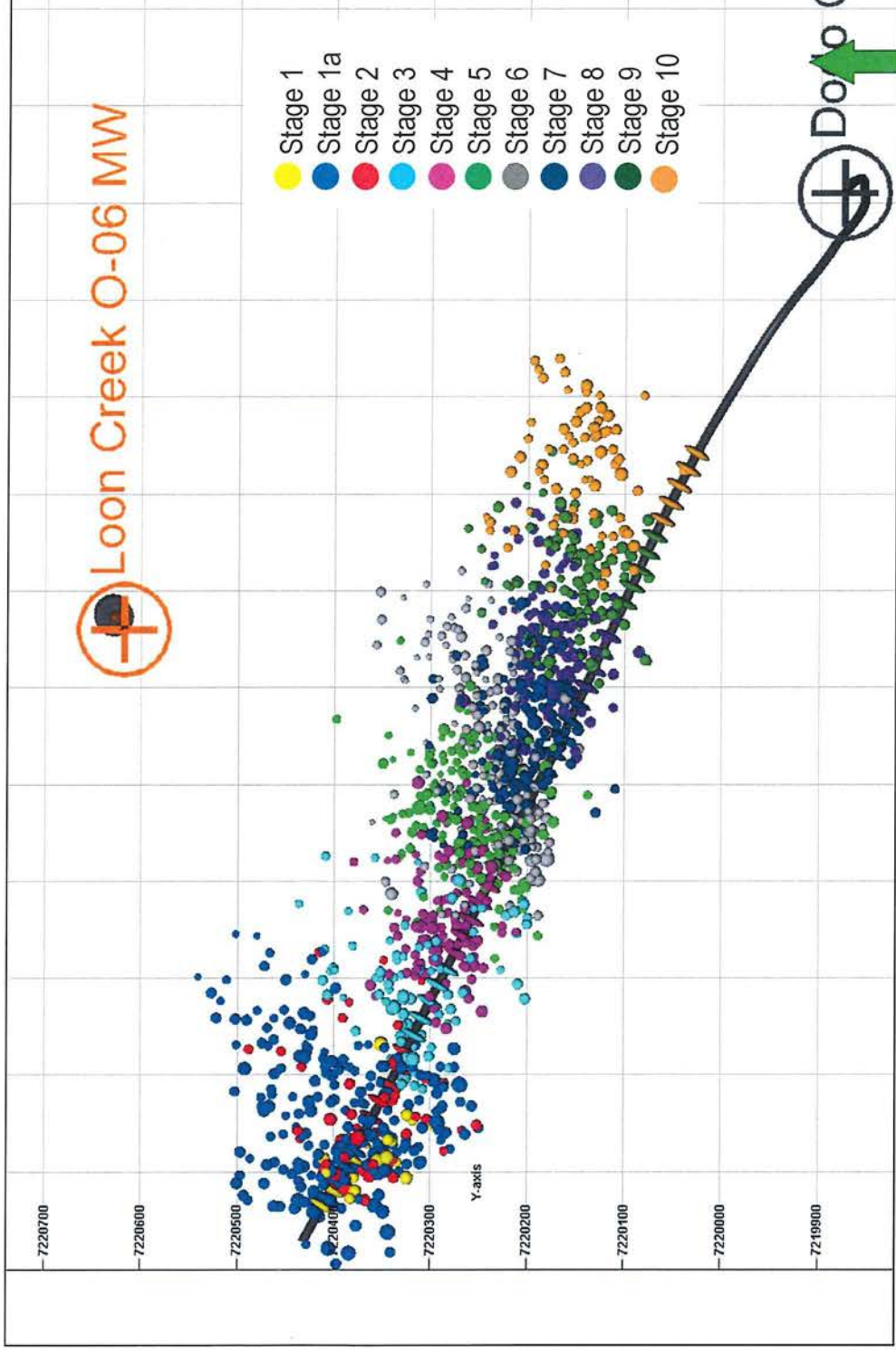
Microseismic Services
Image·Interpret·Integrate



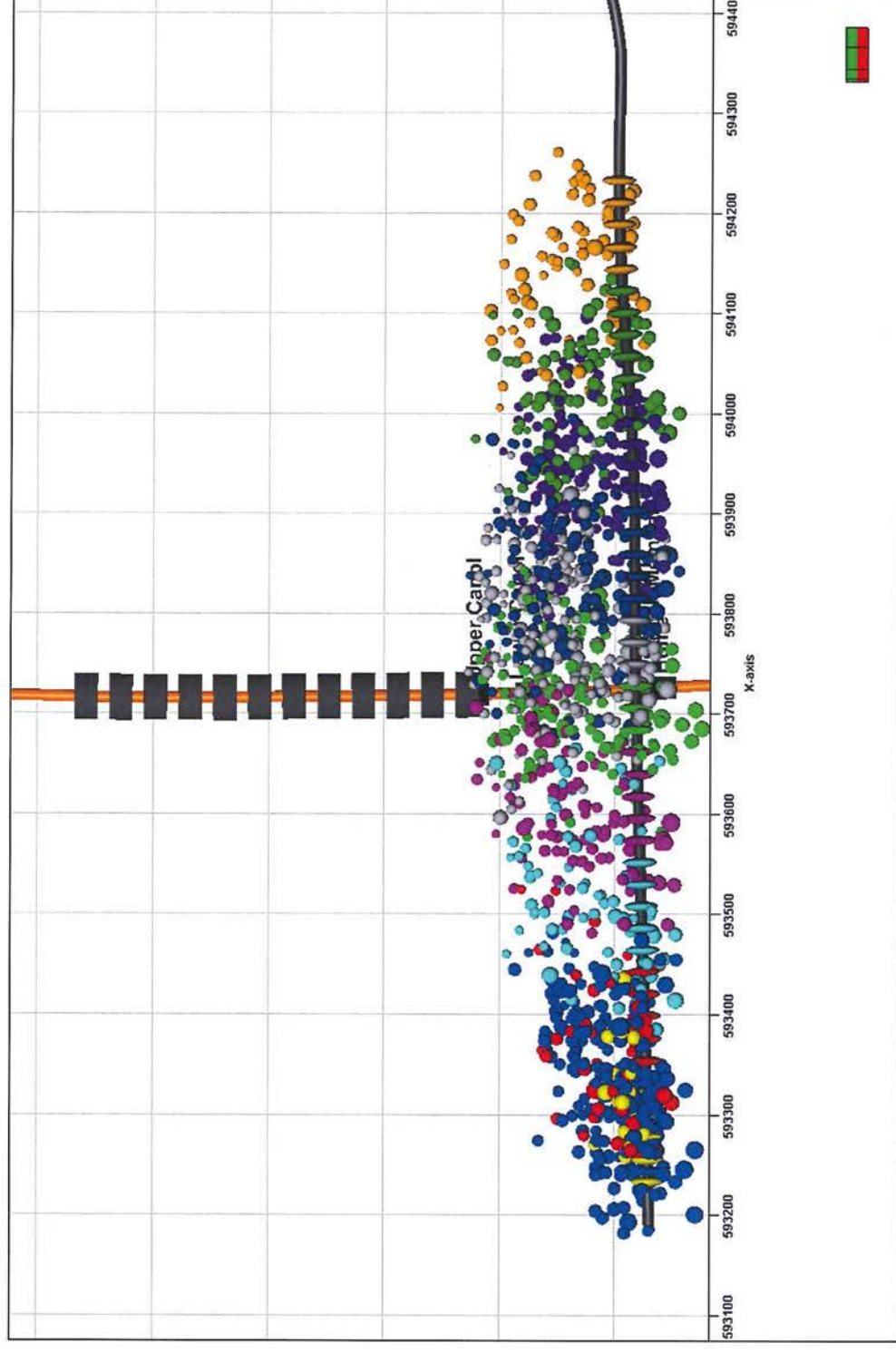
Schlumberger

Events (top view)

events are scaled by
magnitude ($-3 < \text{MW} < -1$)



Events (side view, azimuth 30, deviation 90)

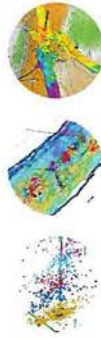
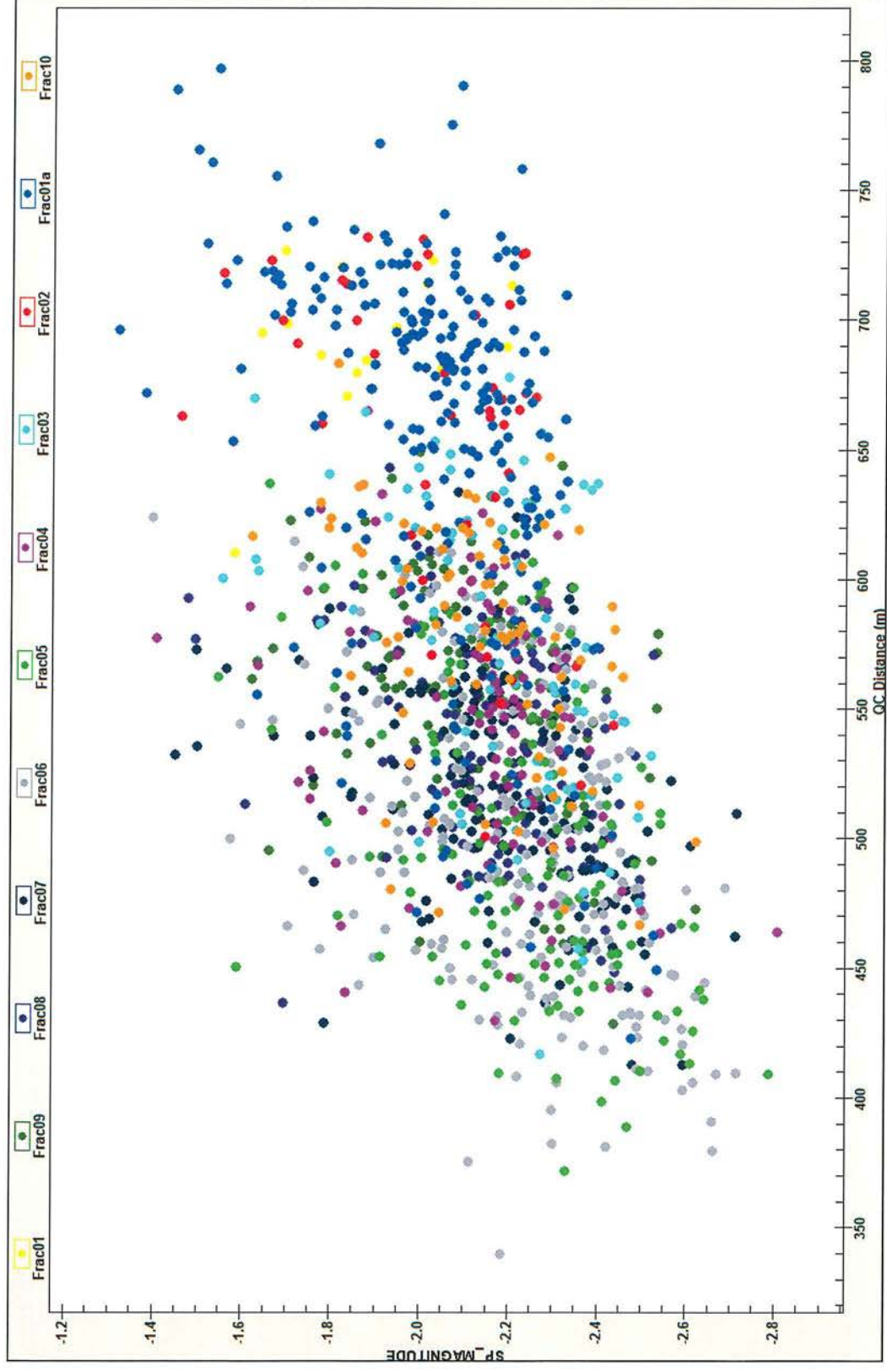


Microseismic Services
Image·Interpret·Integrate



Schlumberger

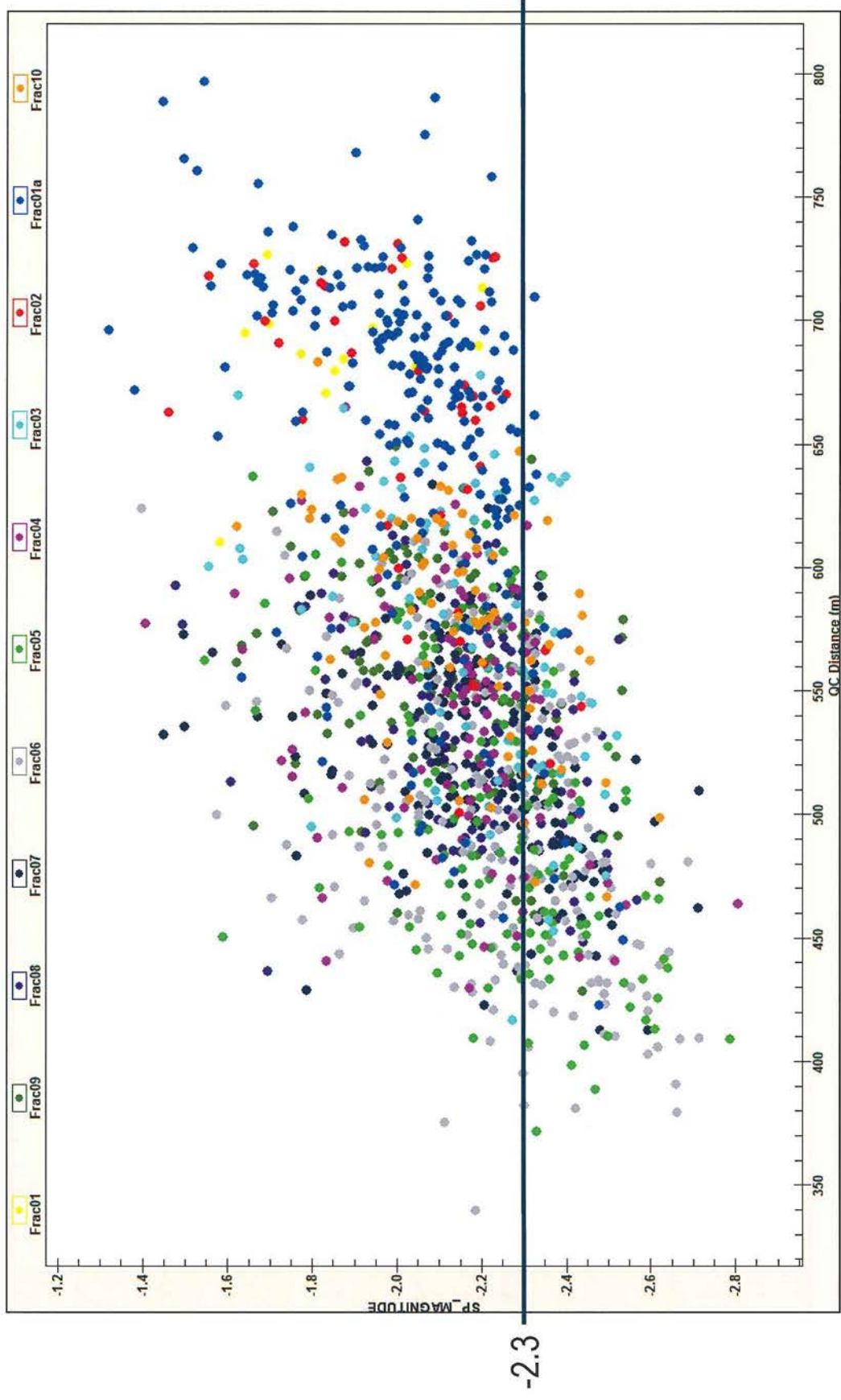
Magnitude vs distance



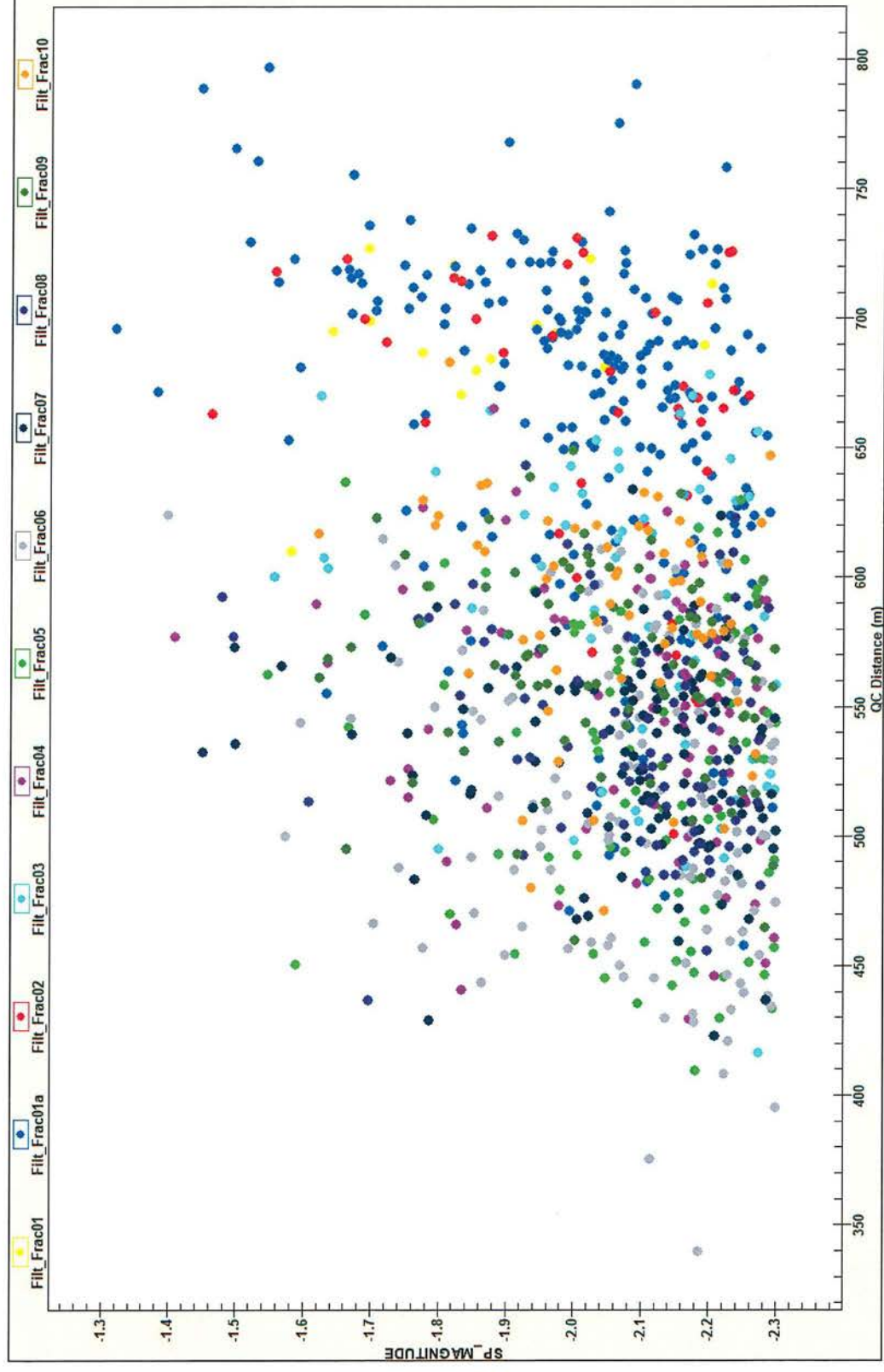
Microseismic Services
Image·Interpret·Integrate

Schlumberger

Magnitude vs distance



Magnitude vs distance filtered

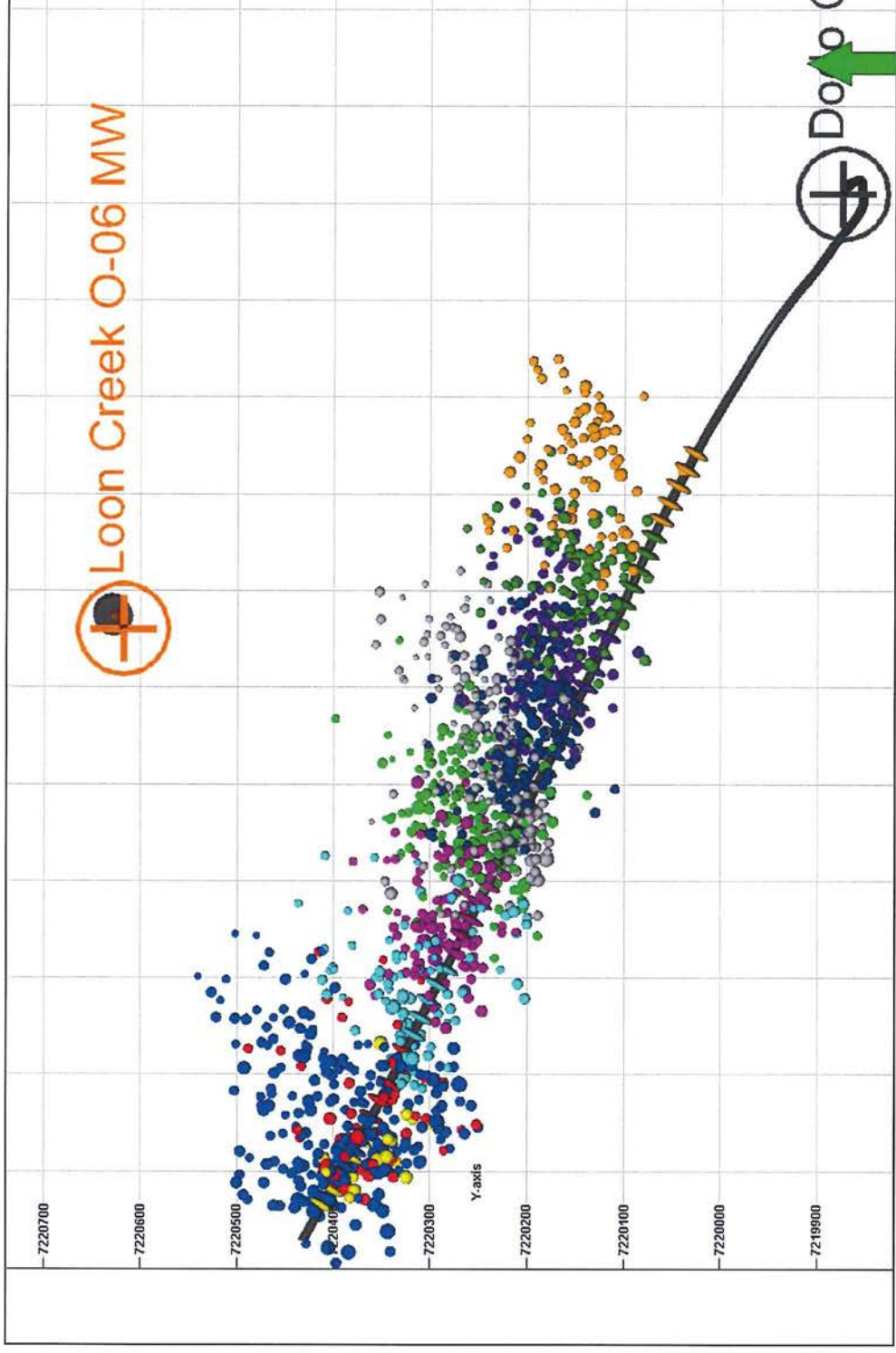


Microseismic Services
Image·Interpret·Integrate

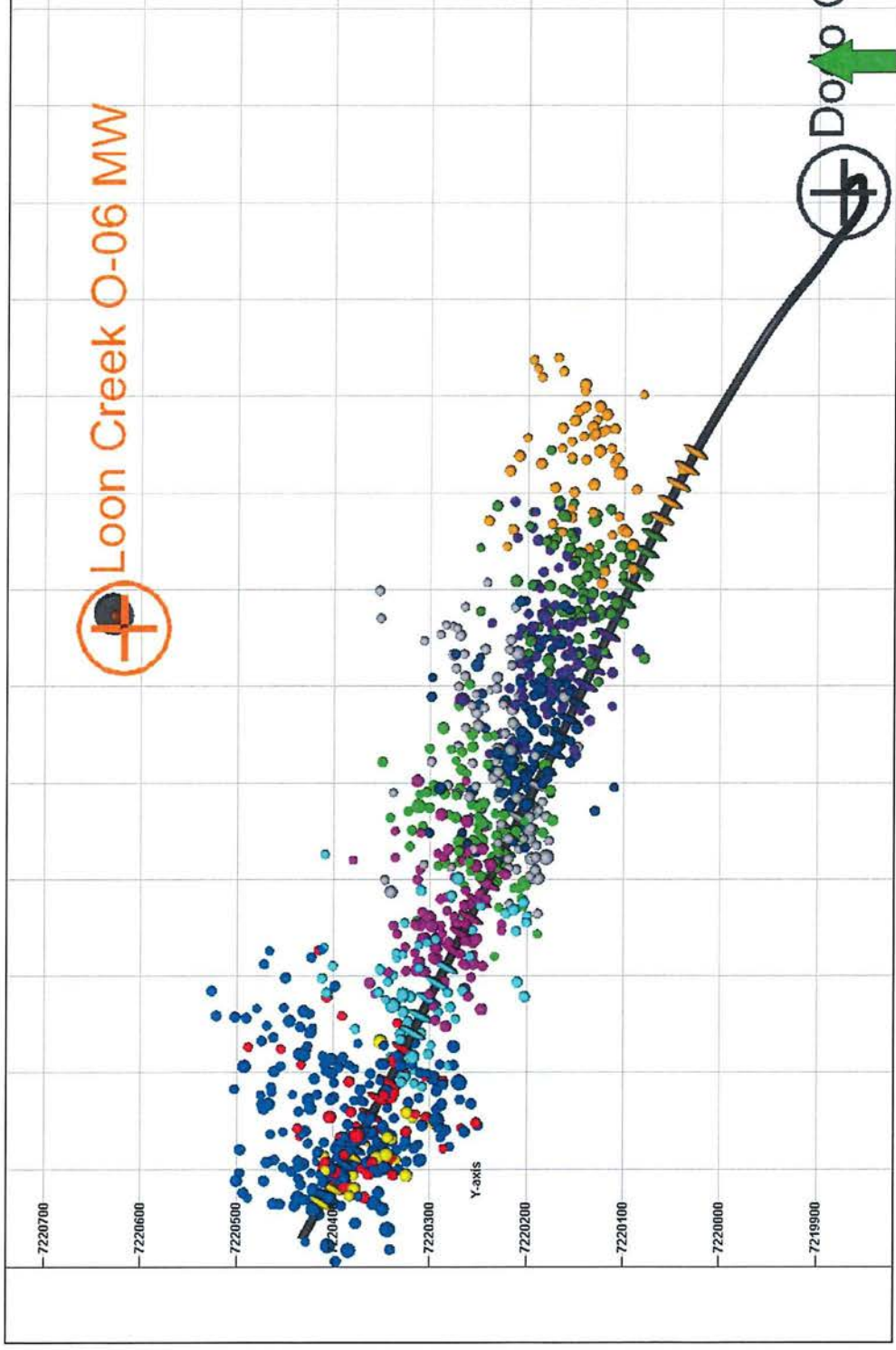


Schlumberger

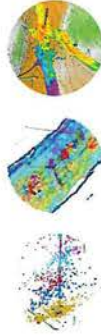
Events (top view)



Events (top view, filtered)

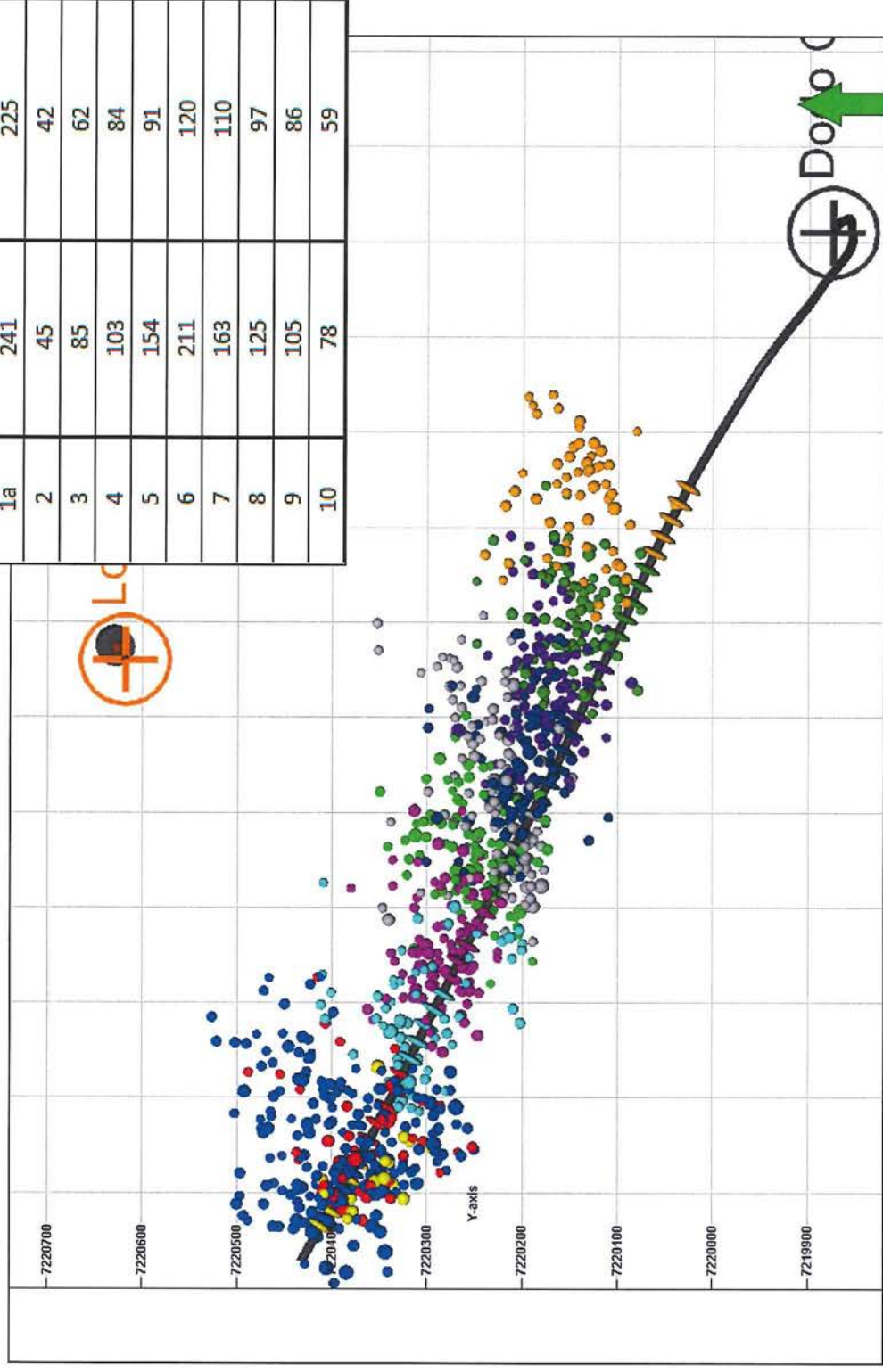


Microseismic Services
Image·Interpret·Integrate



Schlumberger

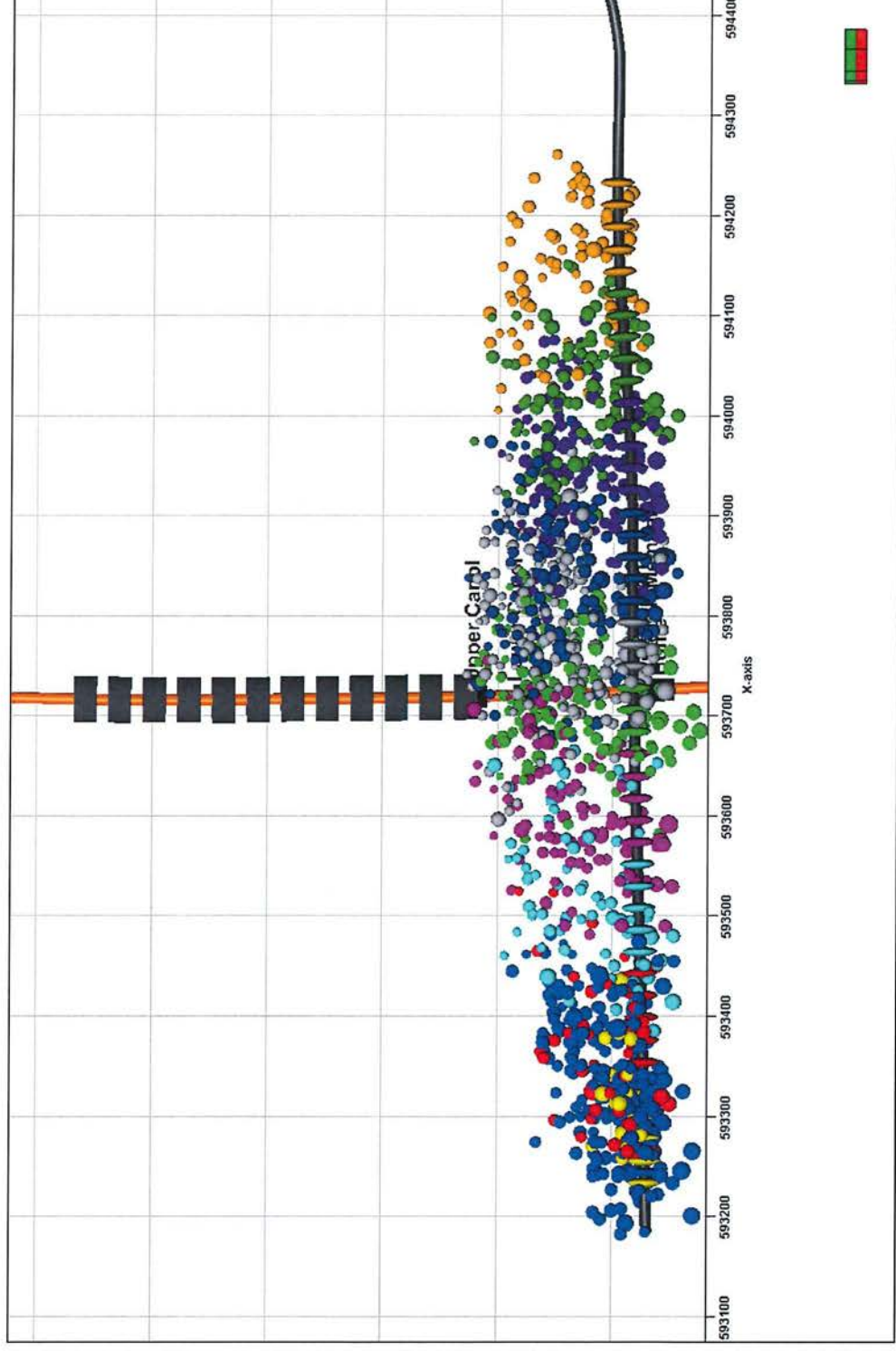
Events (top view, filtered)



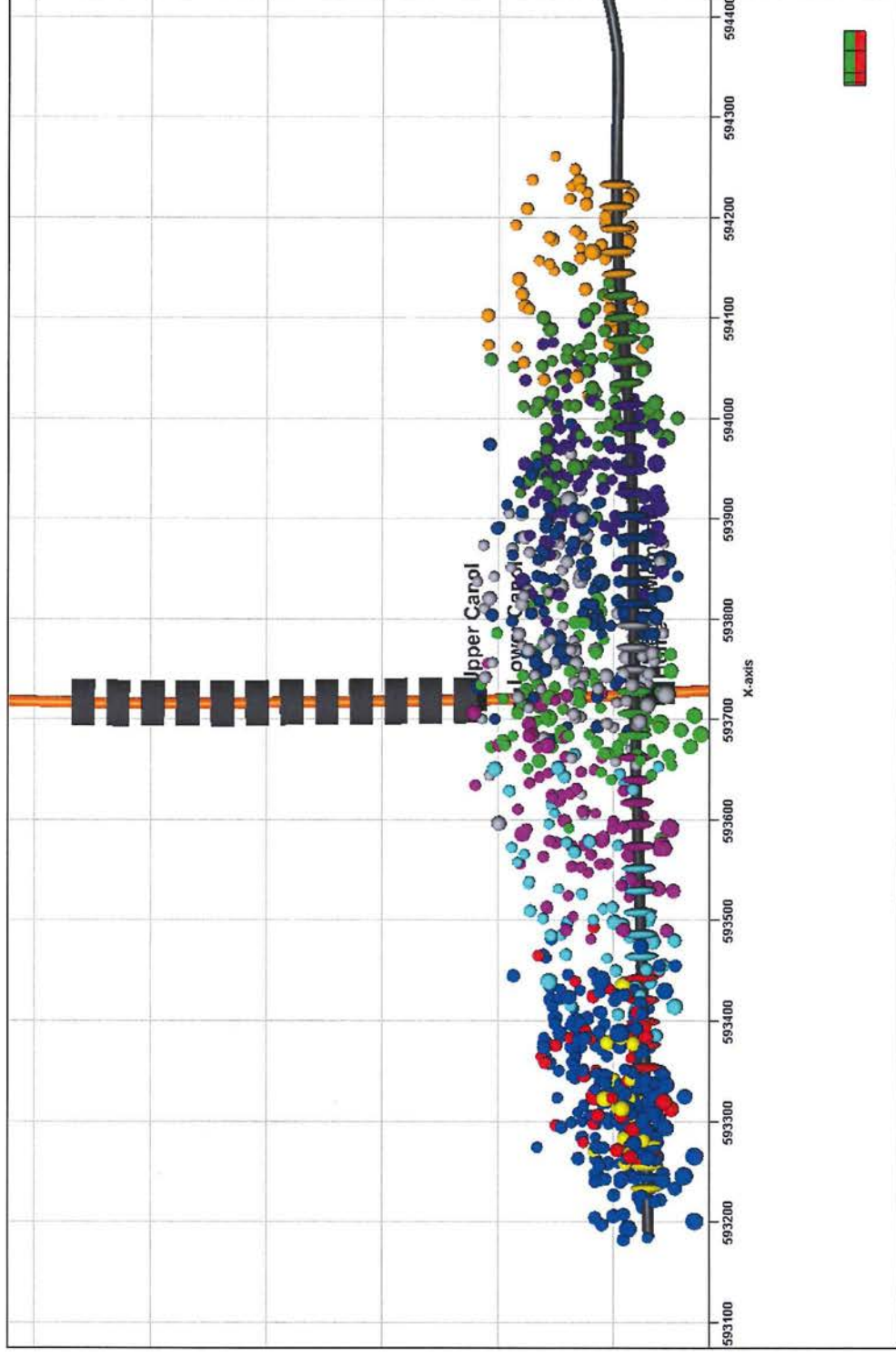
Microseismic Services
Image·Interpret·Integrate

Schlumberger

Events (side view, azimuth 30, deviation 90)



Events (side view, filtered, azimuth 30, deviation 90)

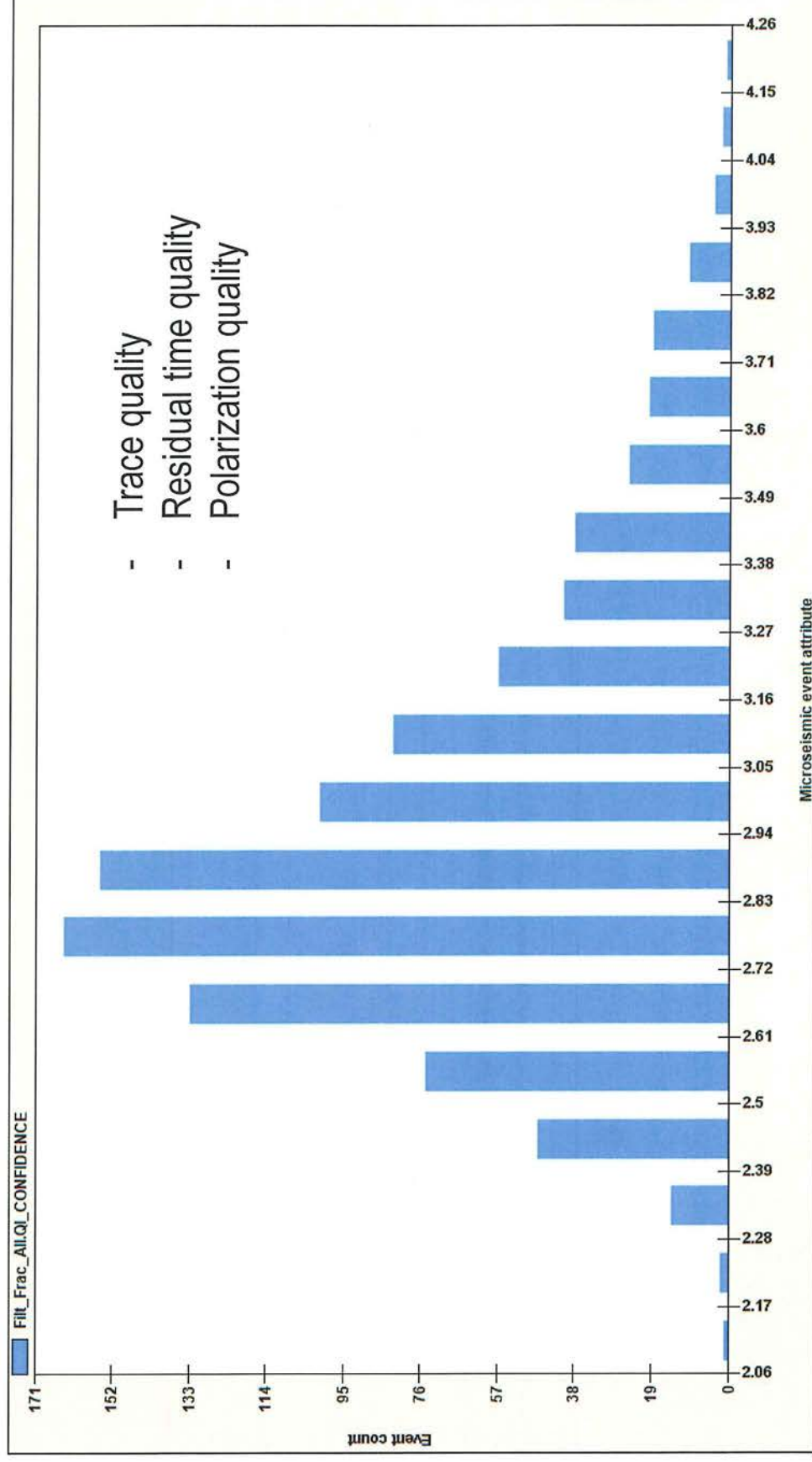


Microseismic Services
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Schlumberger

Confidence factor (MW filtered)



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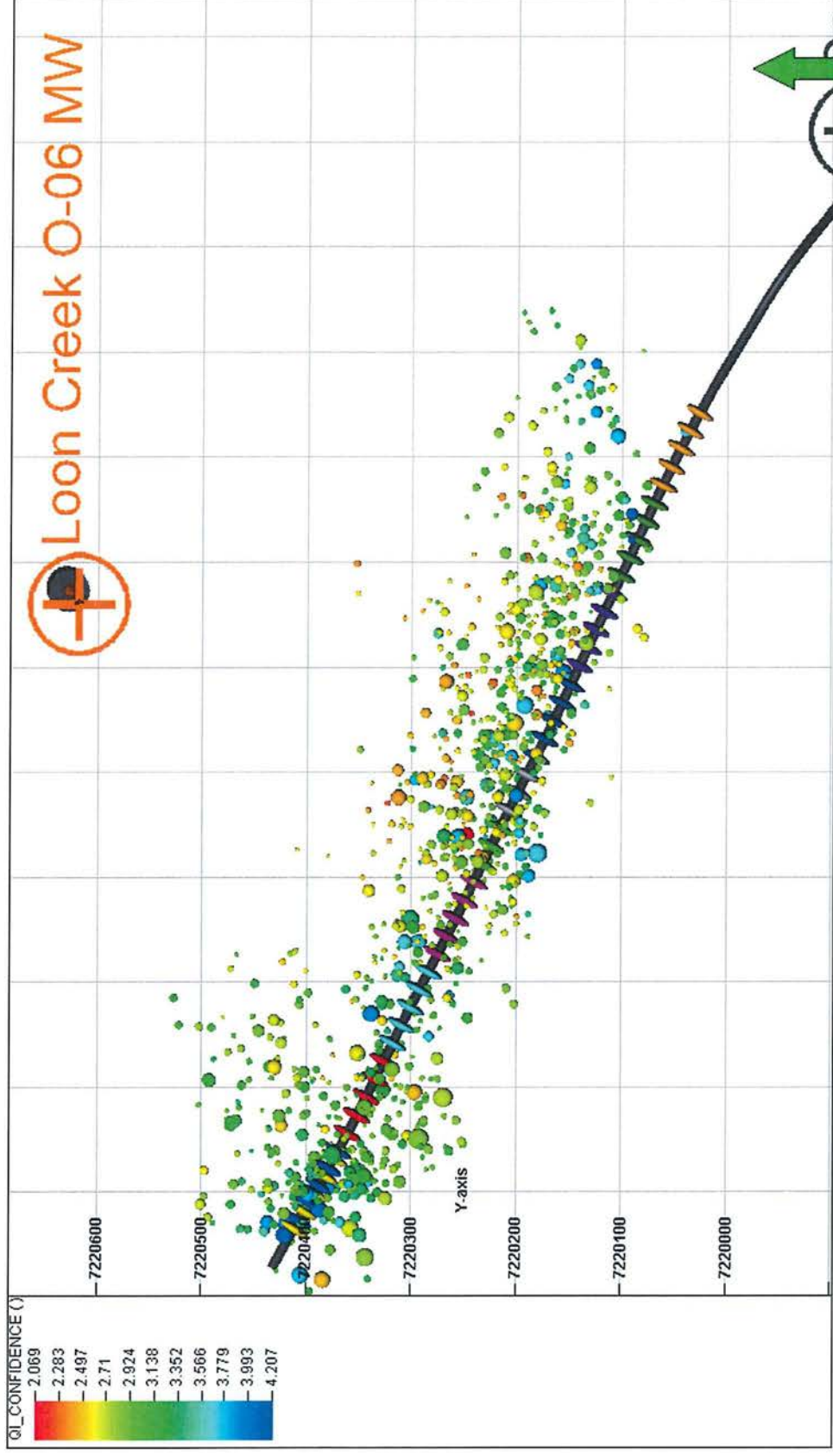


Schlumberger

2.8



Confidence factor (MW filtered)

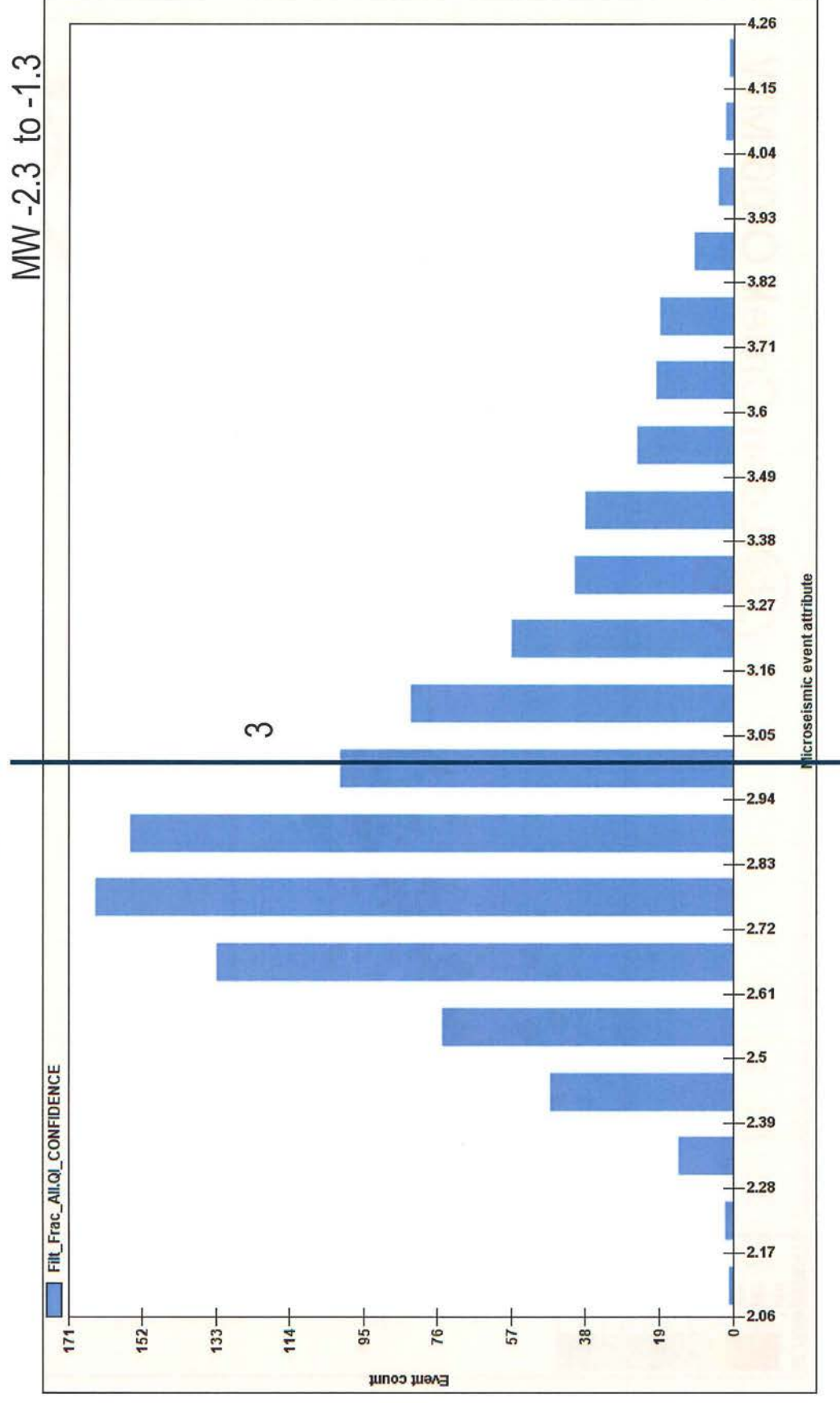


Microseismic Services
Image·Interpret·Integrate

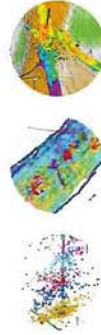


Schlumberger

Confidence factor (MW filtered)

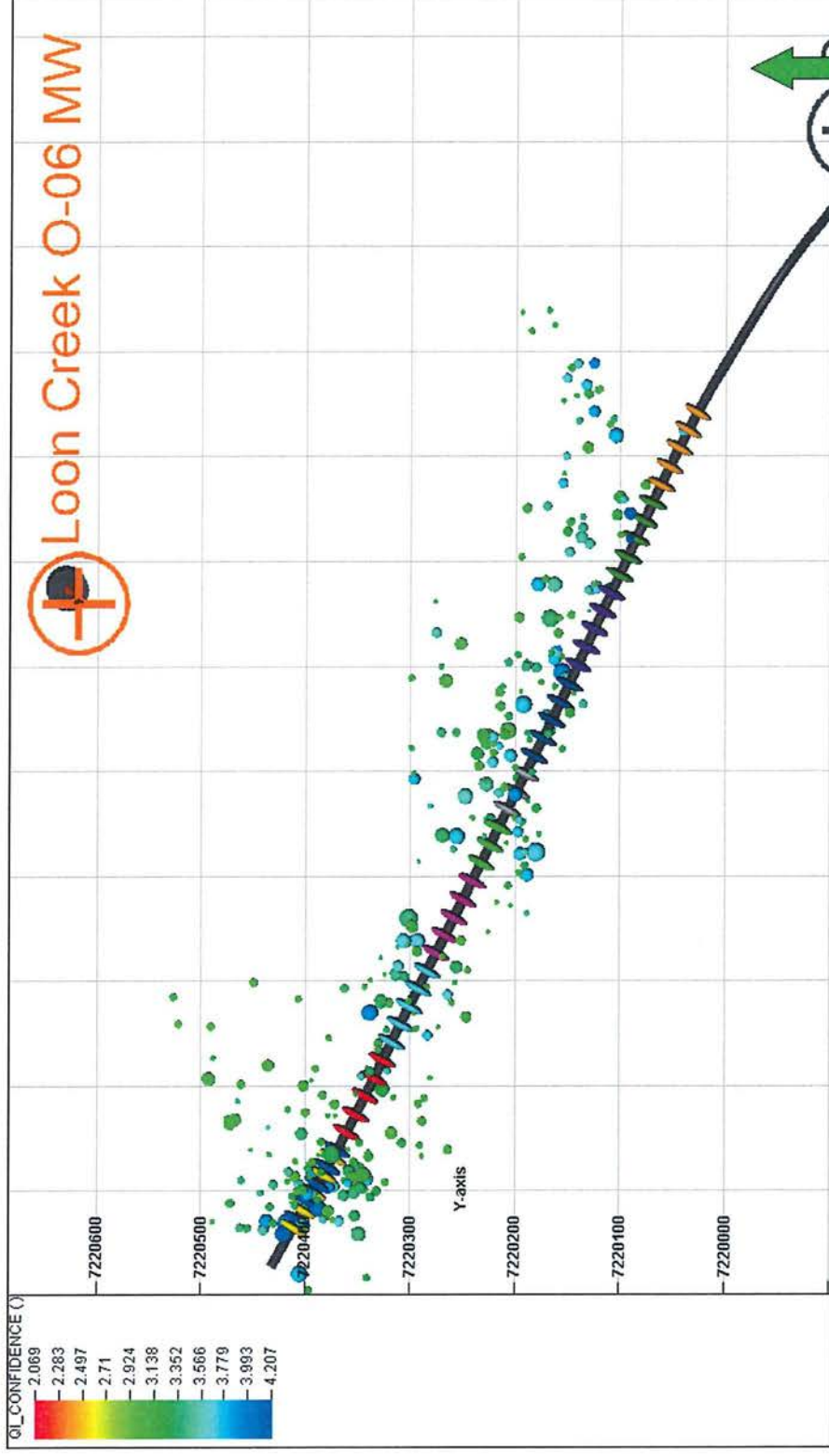


Microseismic Services
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Schlumberger

Confidence factor ≥ 3 (MW filtered)

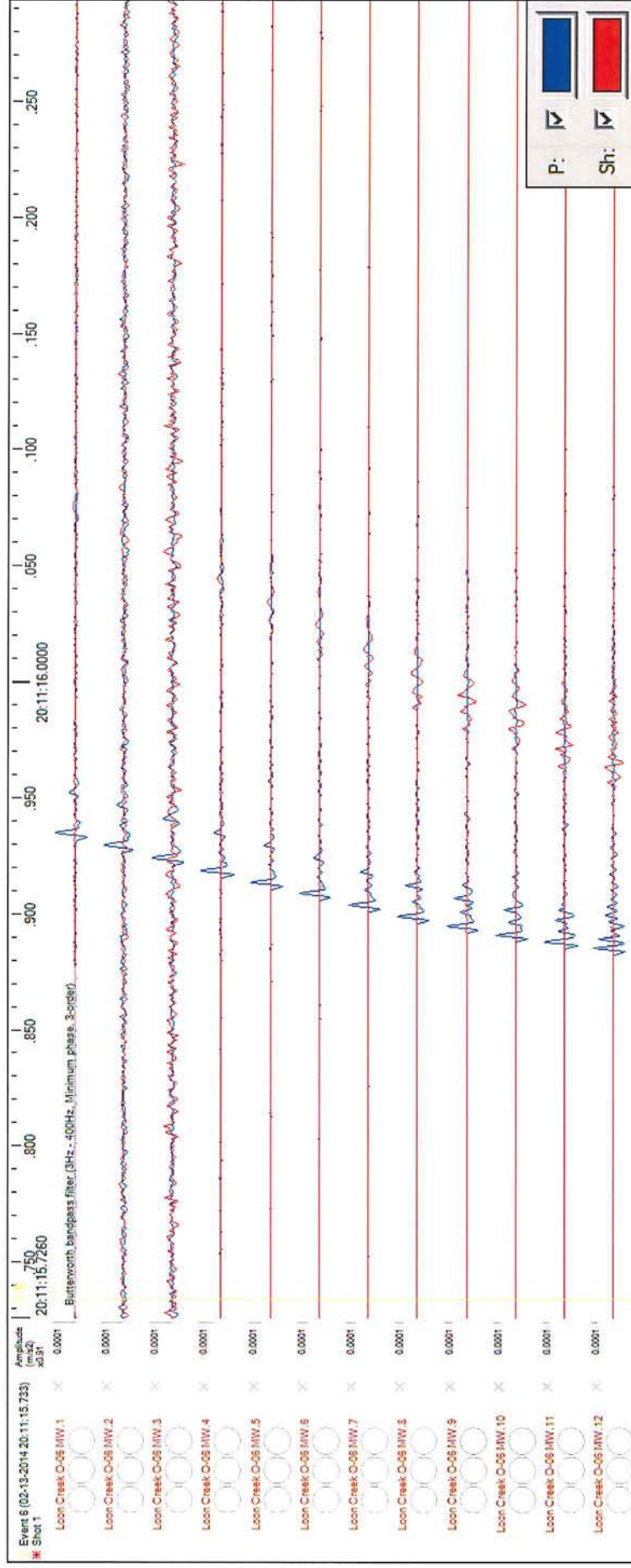


Microseismic Services
Image·Interpret·Integrate

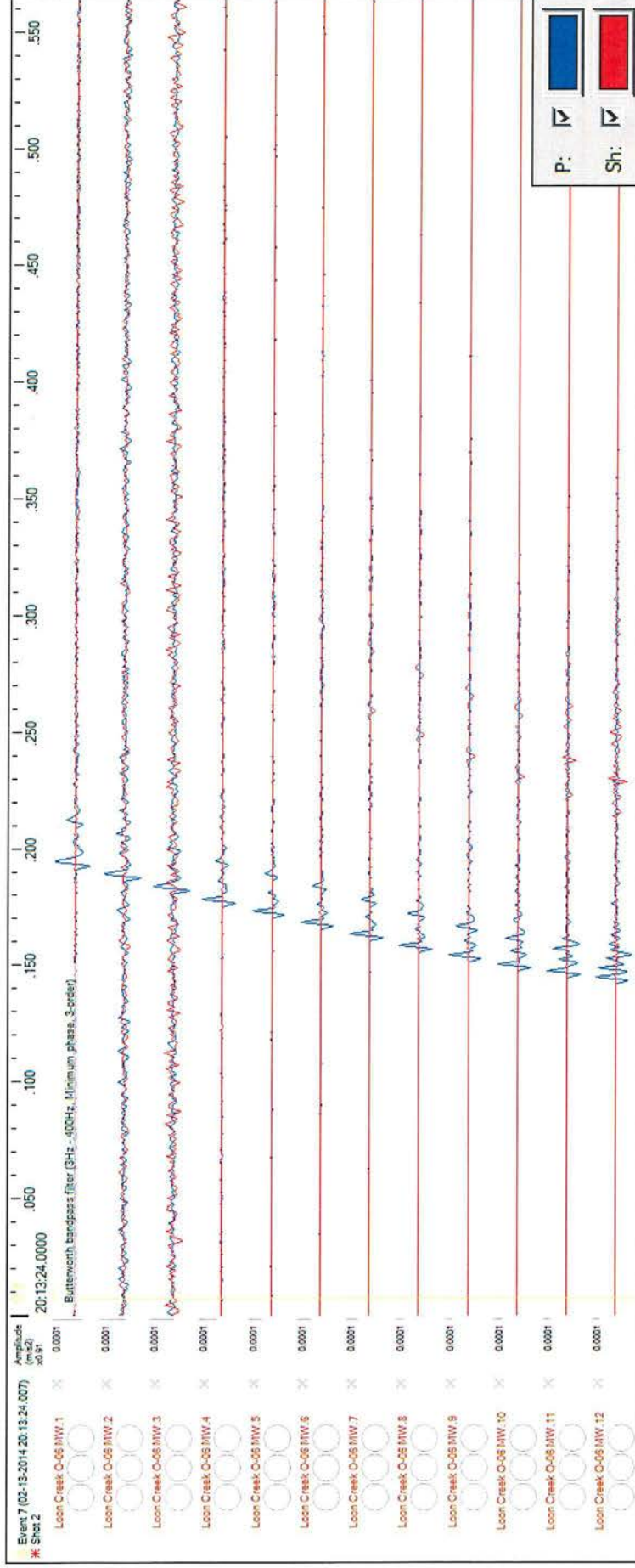


Schlumberger

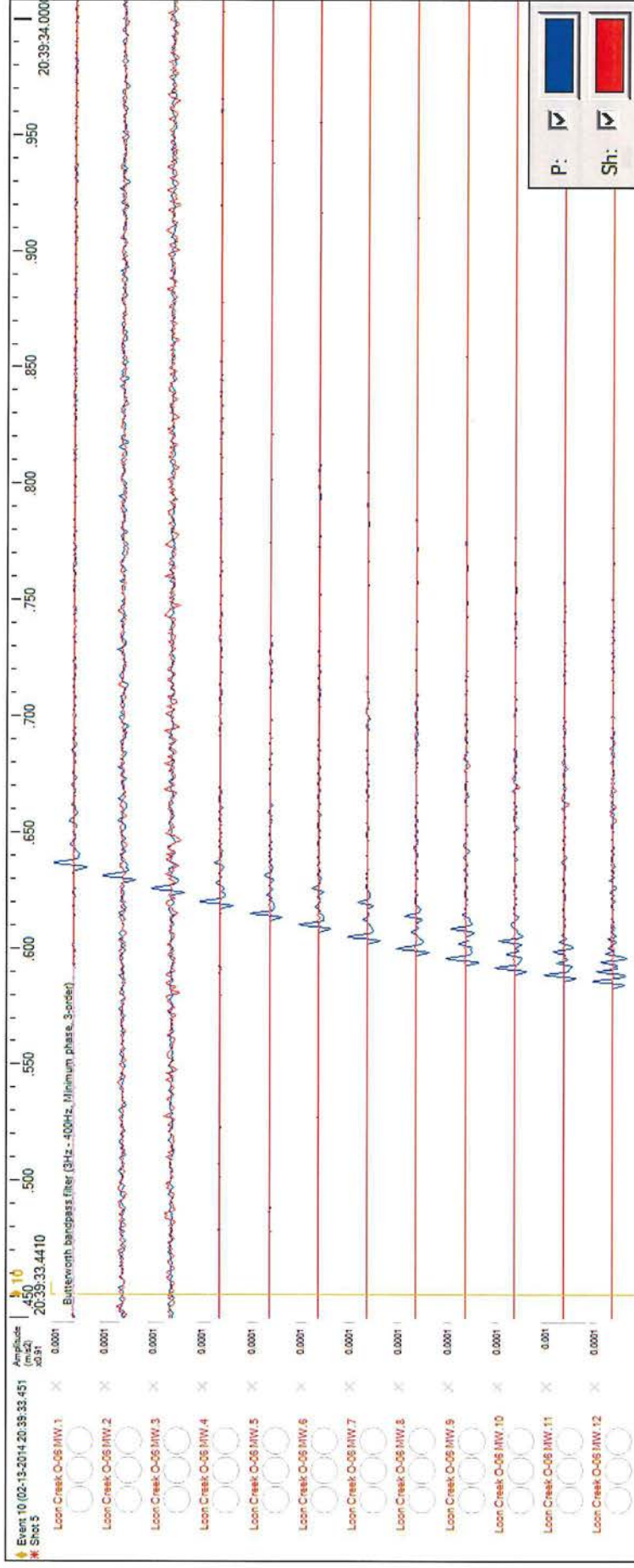
Perf 4 shot 1



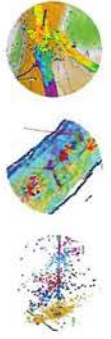
Perf 4 shot 2



Perf 4 shot 5

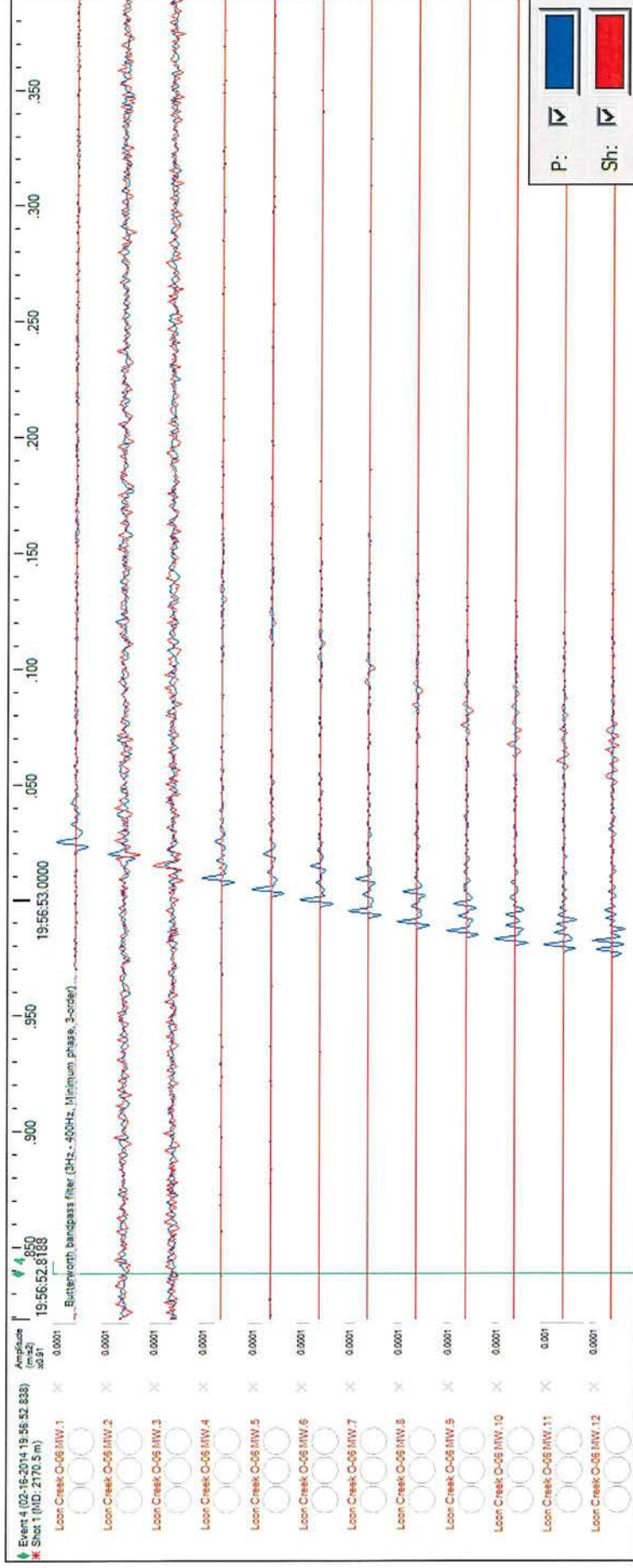


Microseismic Services
Image·Interpret·Integrate

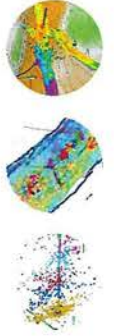


Schlumberger

Perf 9 shot 1

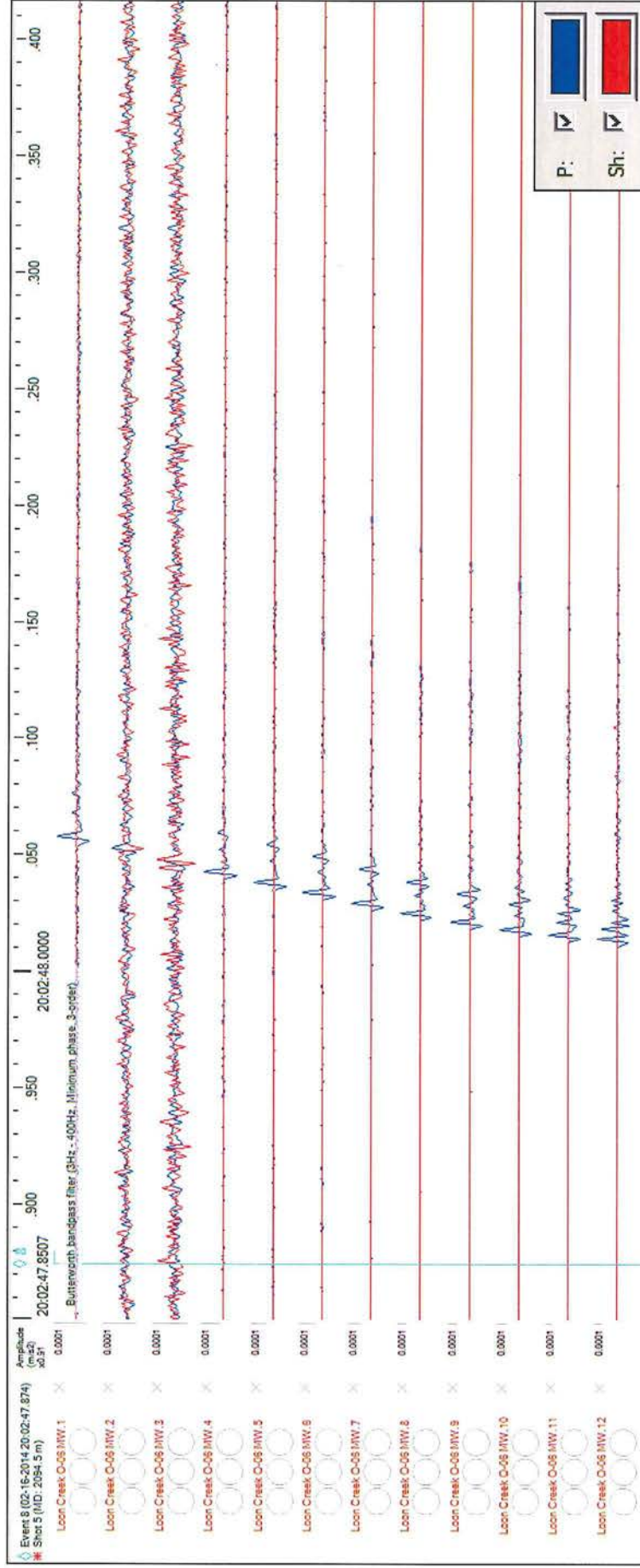


Microseismic Services
Image · Interpret · Integrate



Schlumberger

Perf 9 shot 5

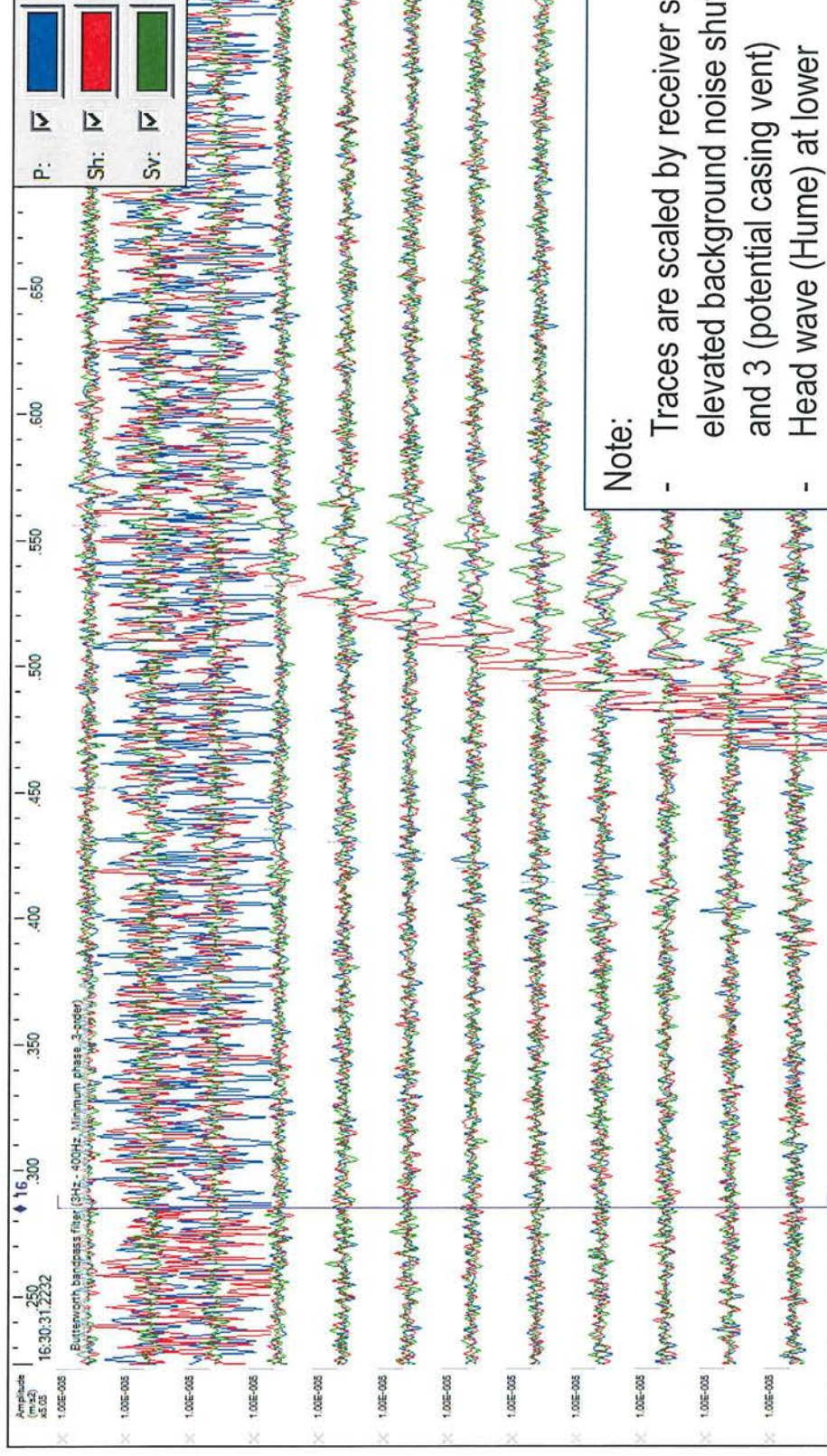


Microseismic Services
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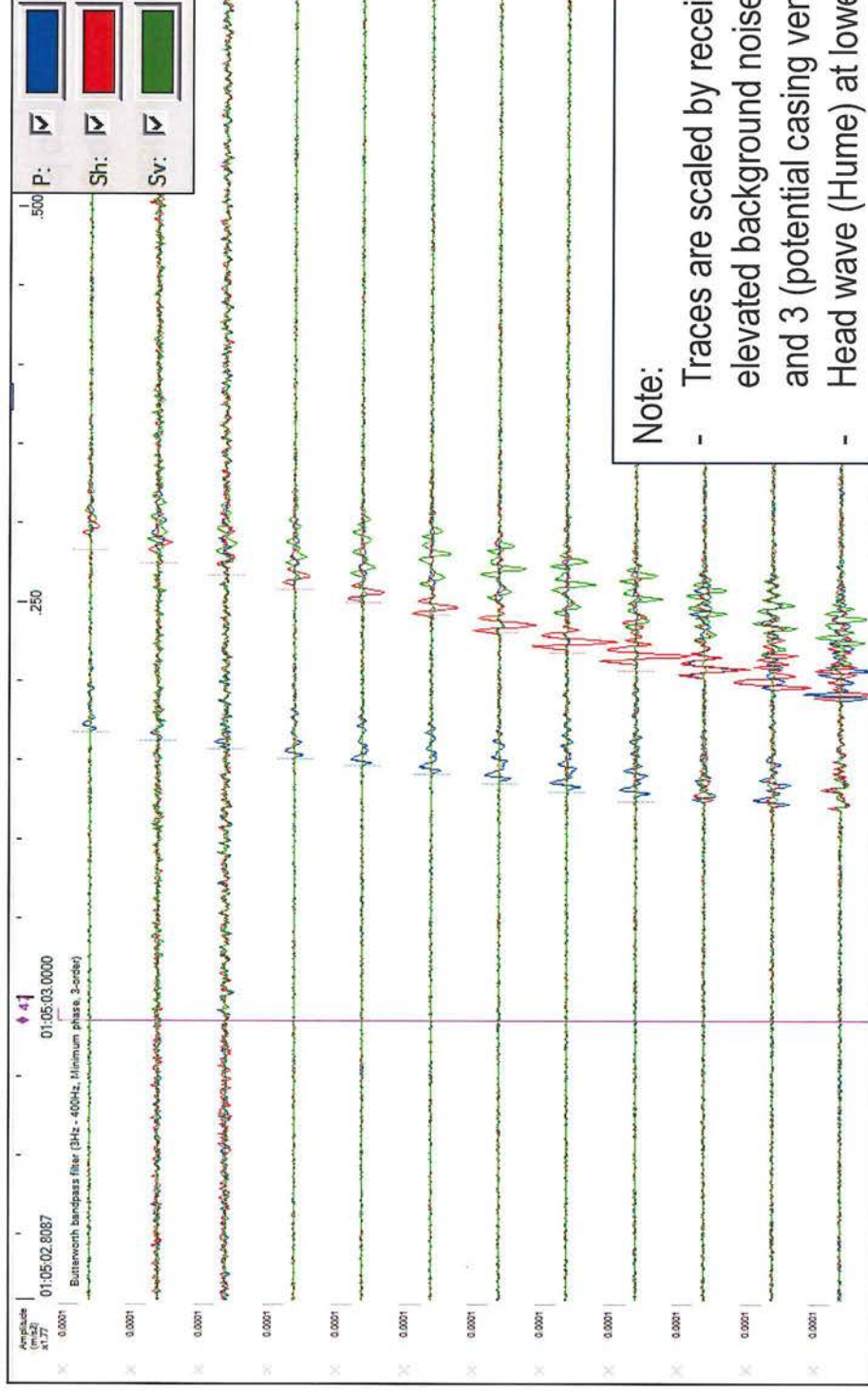


Schlumberger

Waveform example of low SNR (MW -2)



Waveform example of high SNR (MW -1.2)

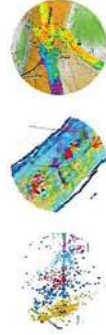
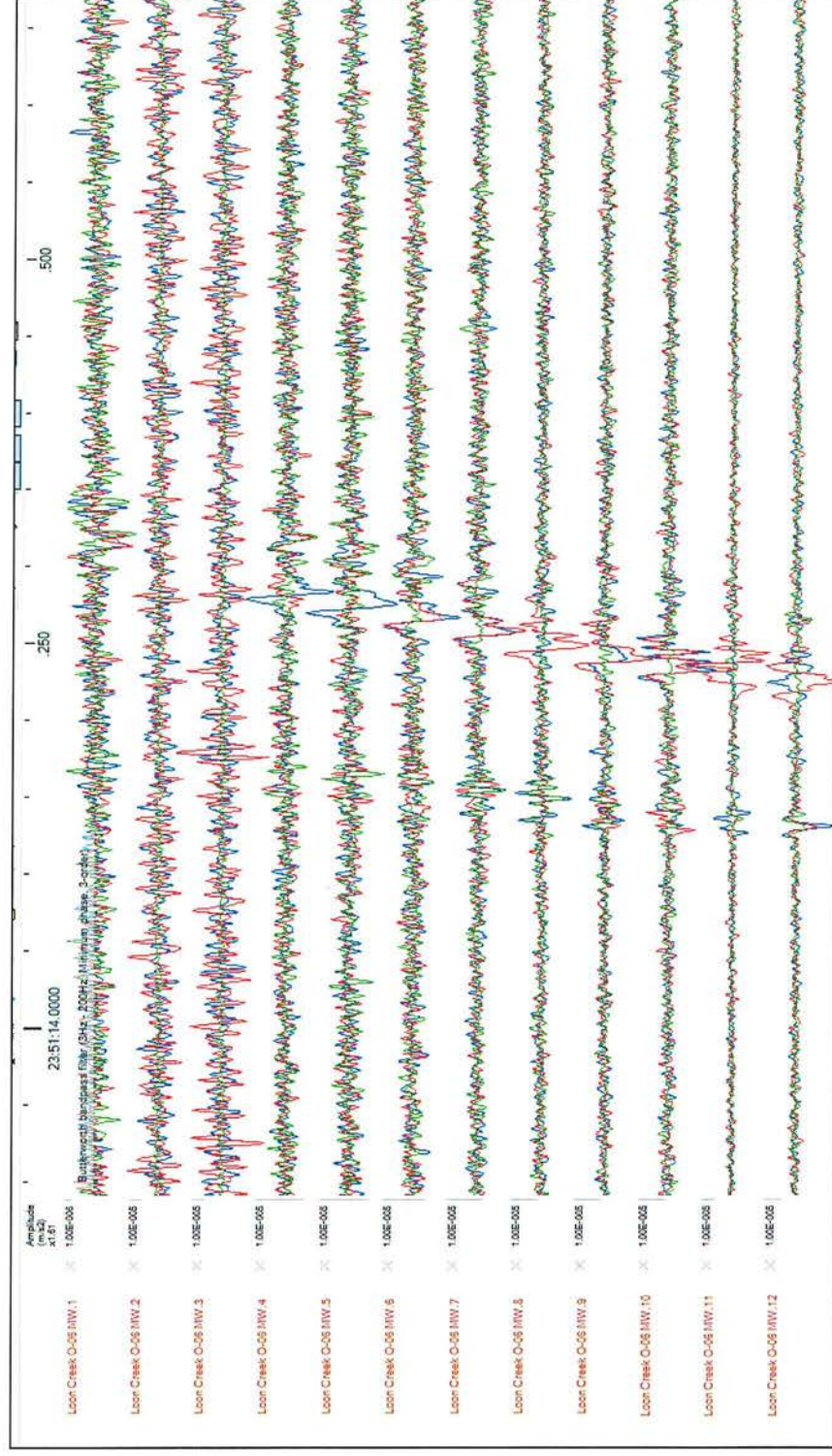


Note:

- Traces are scaled by receiver set: elevated background noise shuttle 2 and 3 (potential casing vent)
- Head wave (Hume) at lower shuttles



Event example stage 1 (MW -1.7)



Microseismic Services
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Event example stage 9 (MW -1.6)

☒

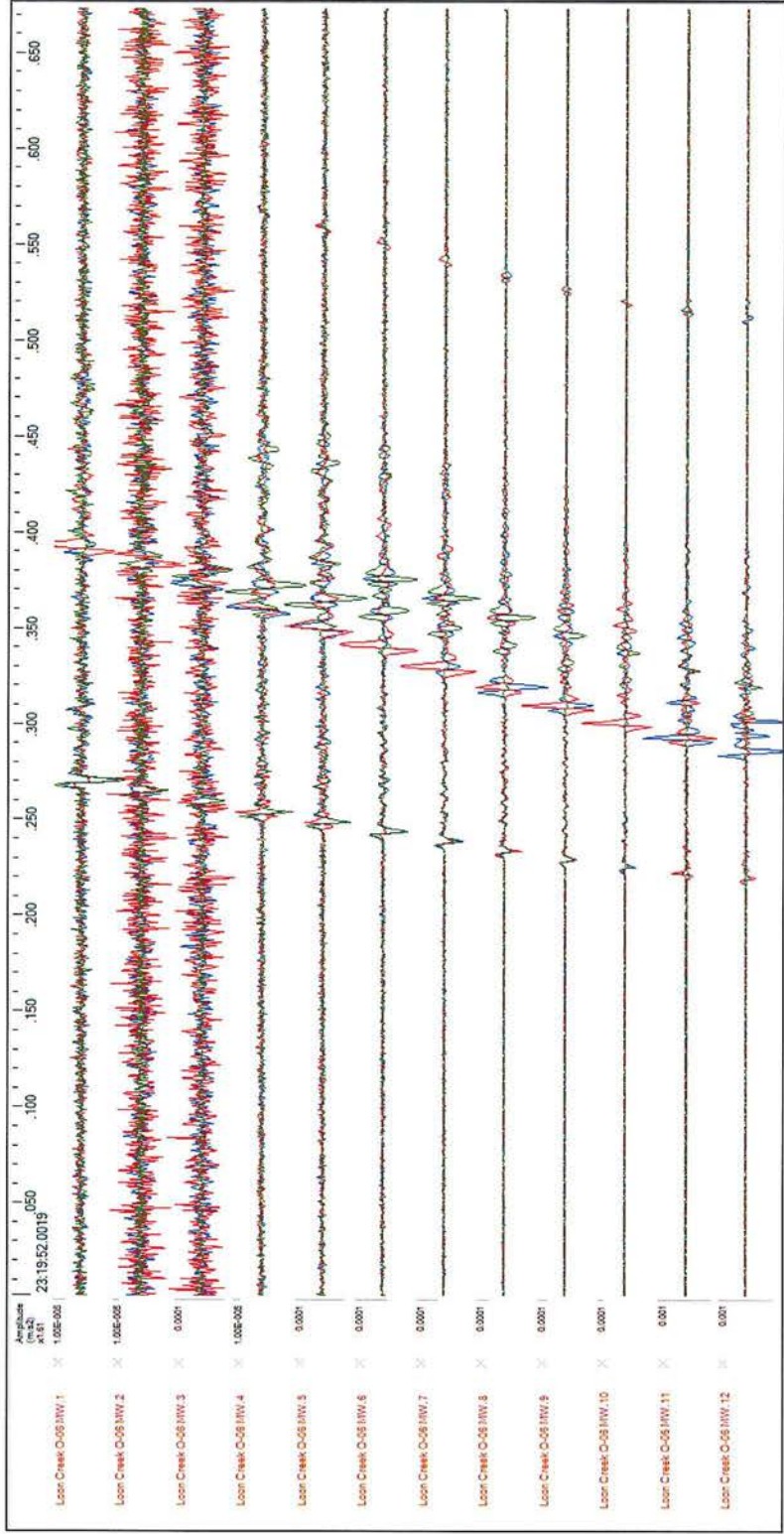
P:

☒

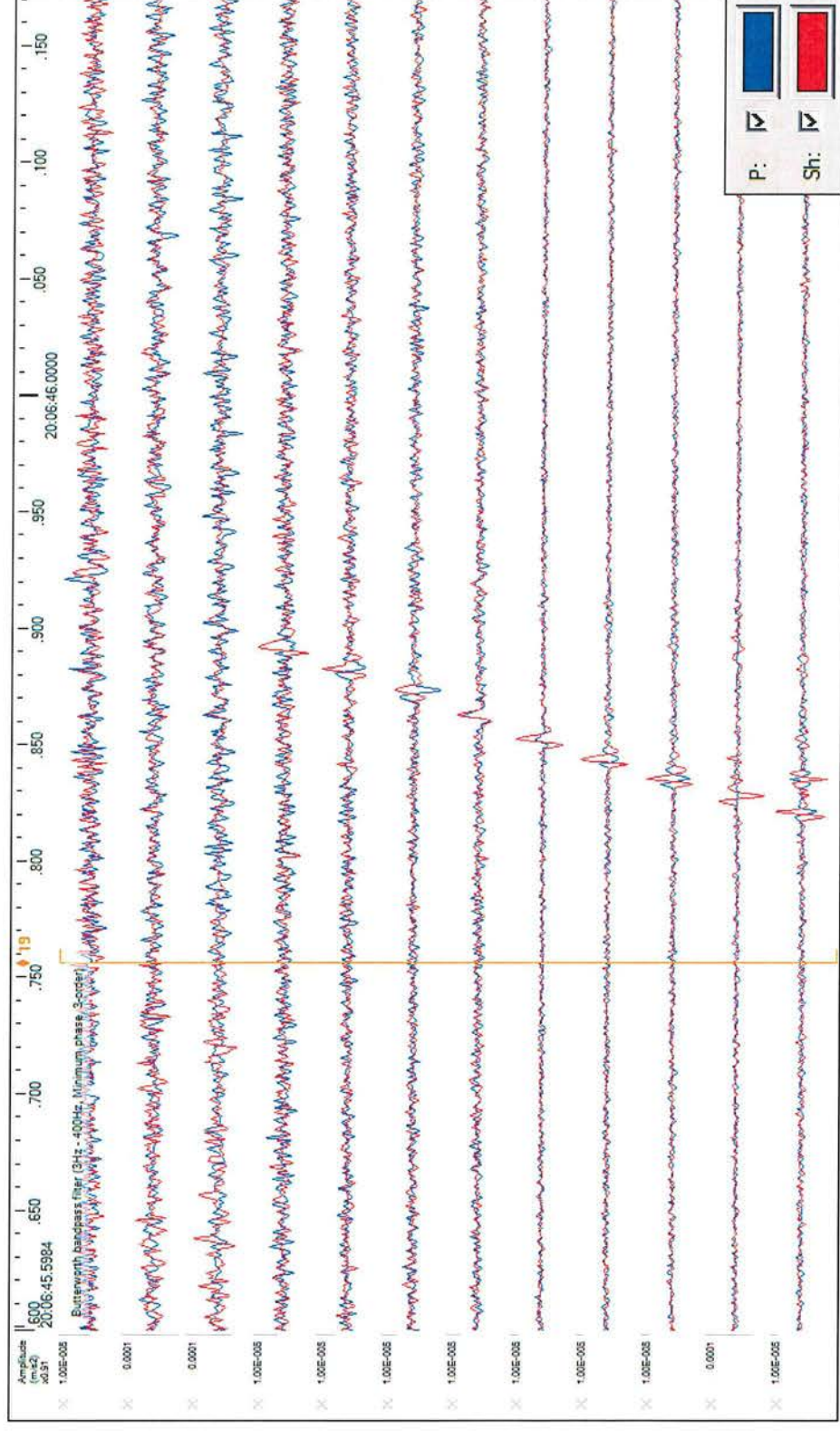
Sh:

☒

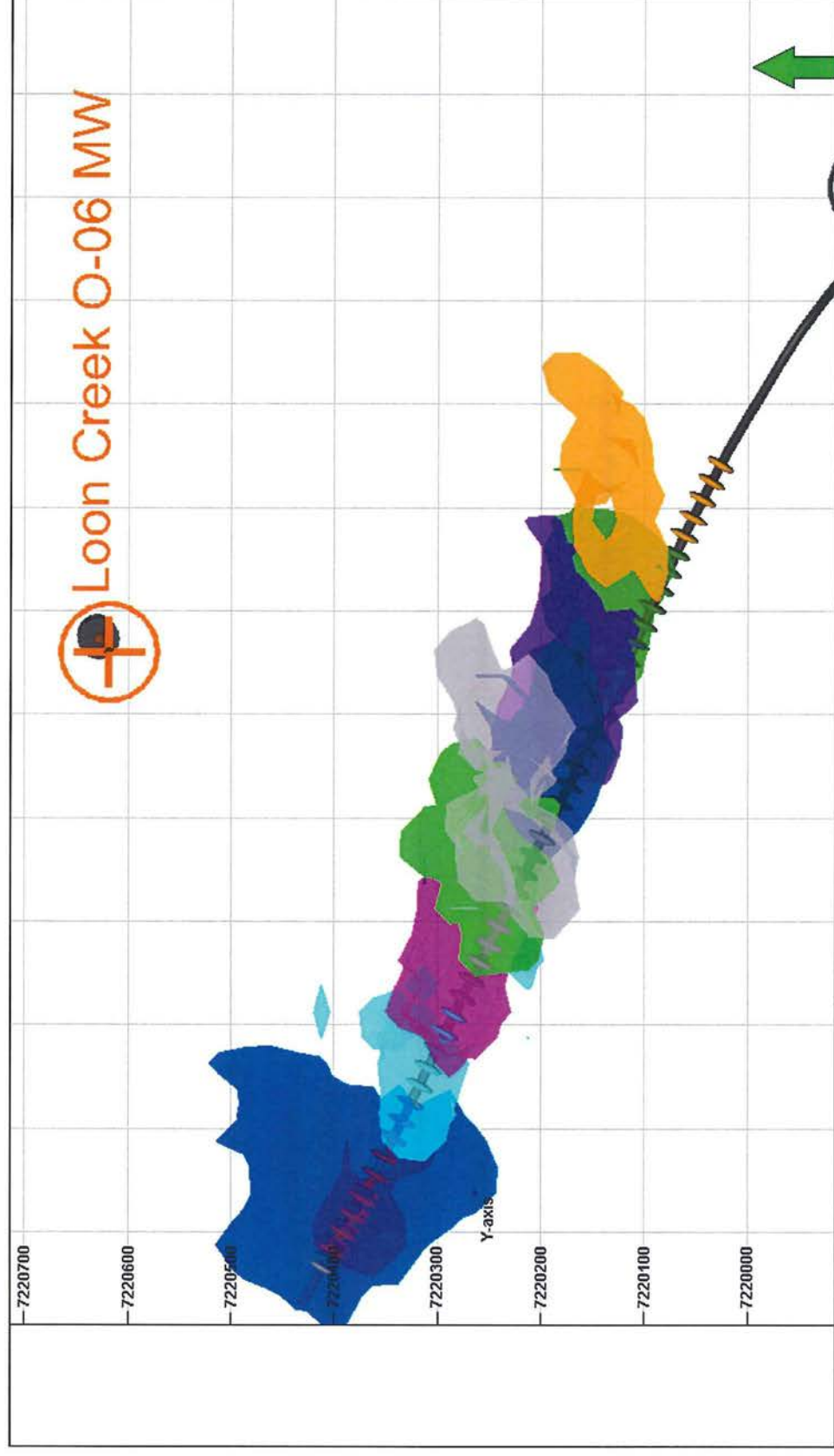
Sv:



Event example stage 2, no P-phase



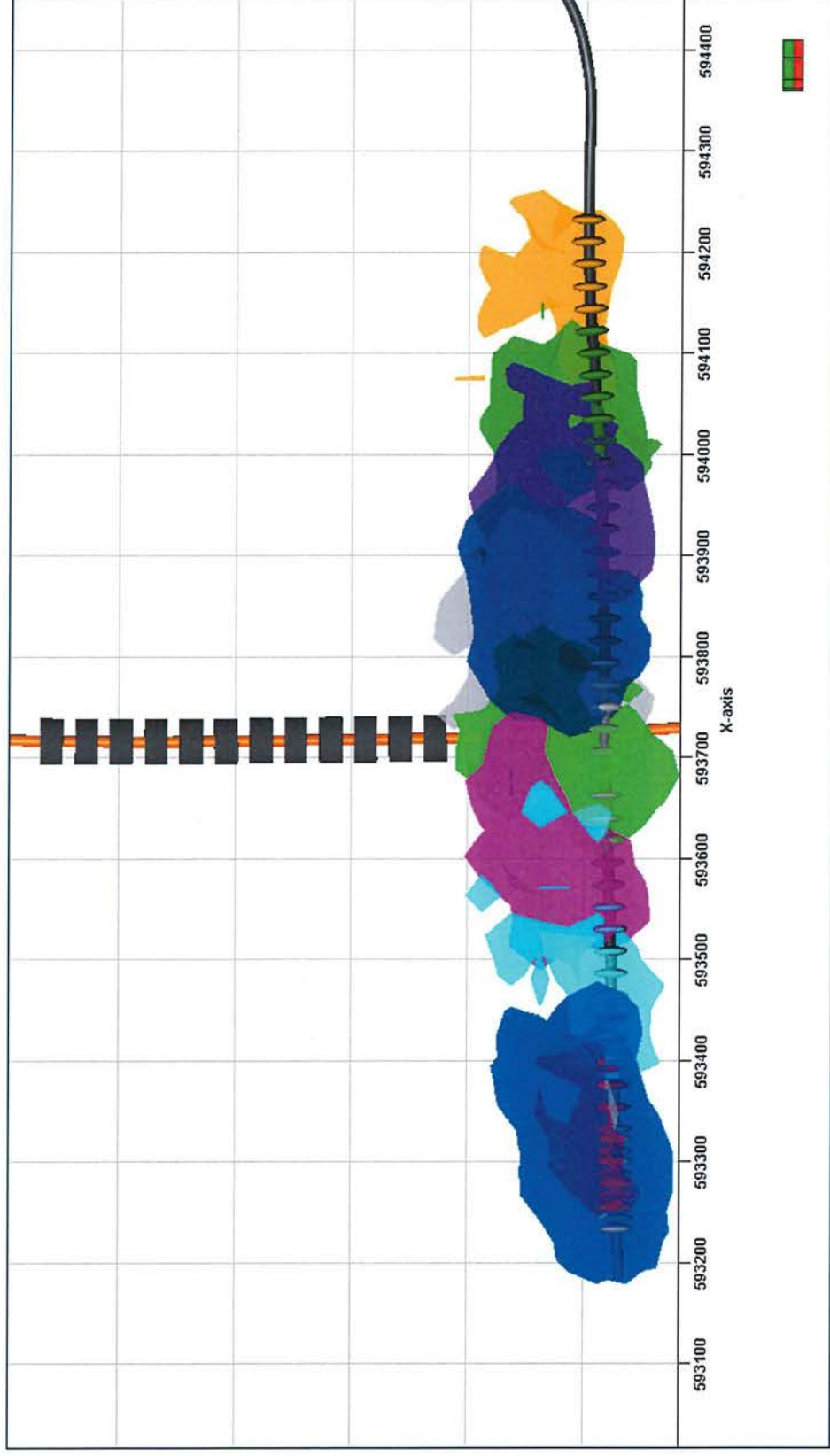
ESV (top view)



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Schlumberger

ESV (side view, deviation 90, azimuth 30)



Microseismic Services
Image·Interpret·Integrate



Schlumberger

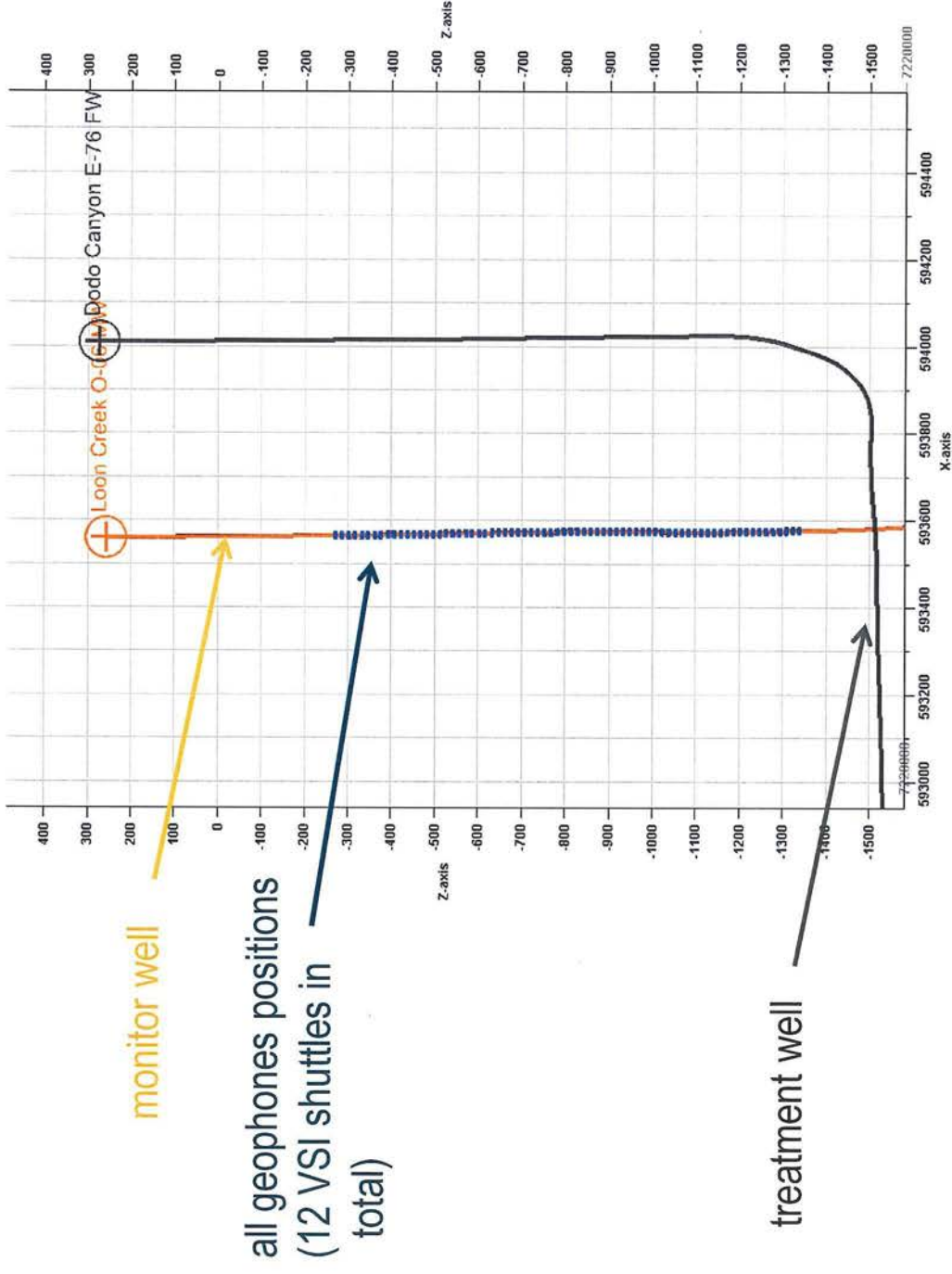
Content

- Casing vent identification
- Receiver orientation
- Velocity model building
- Microseismic events
- Waveform examples
- ESV



Microseismic Services
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Geophone positions during rig up

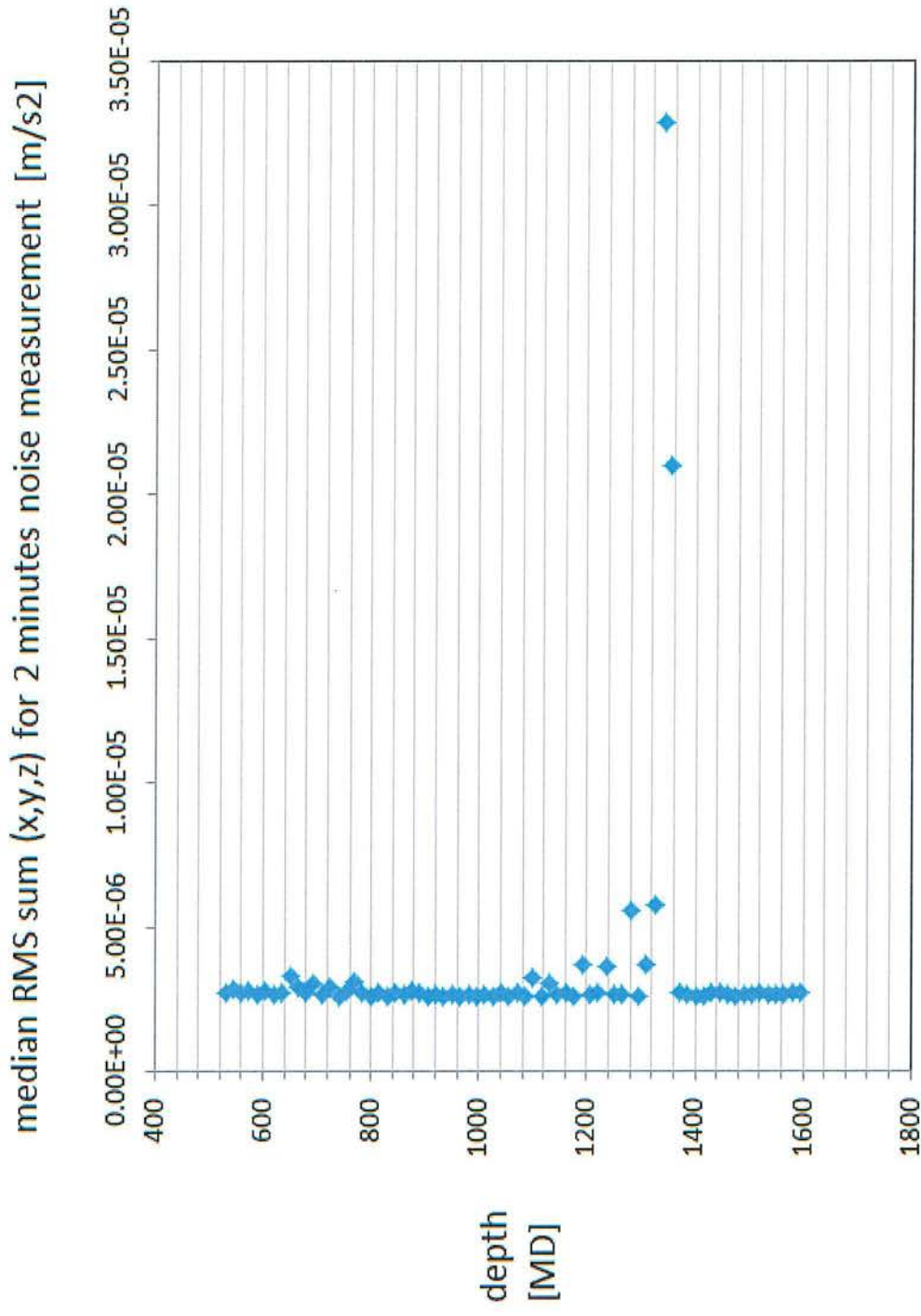


background noise was recorded at each depth indicated by the geophone positions in blue while lowering tools down to final anchoring depth (last shuttle at 1630 MD)



(view from South)

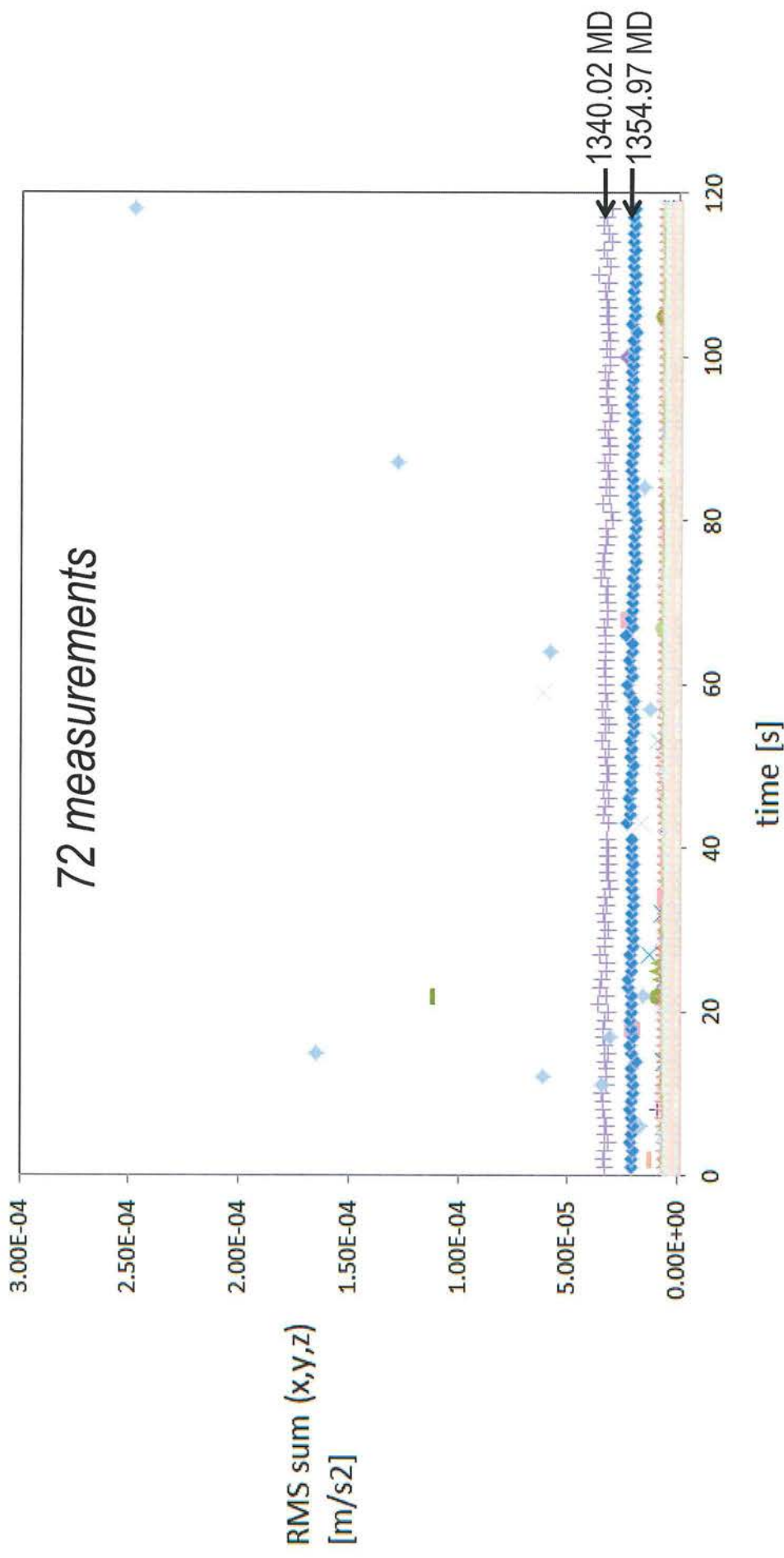
Noise measurement (unfiltered data)



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2 minutes noise for each station at each depth

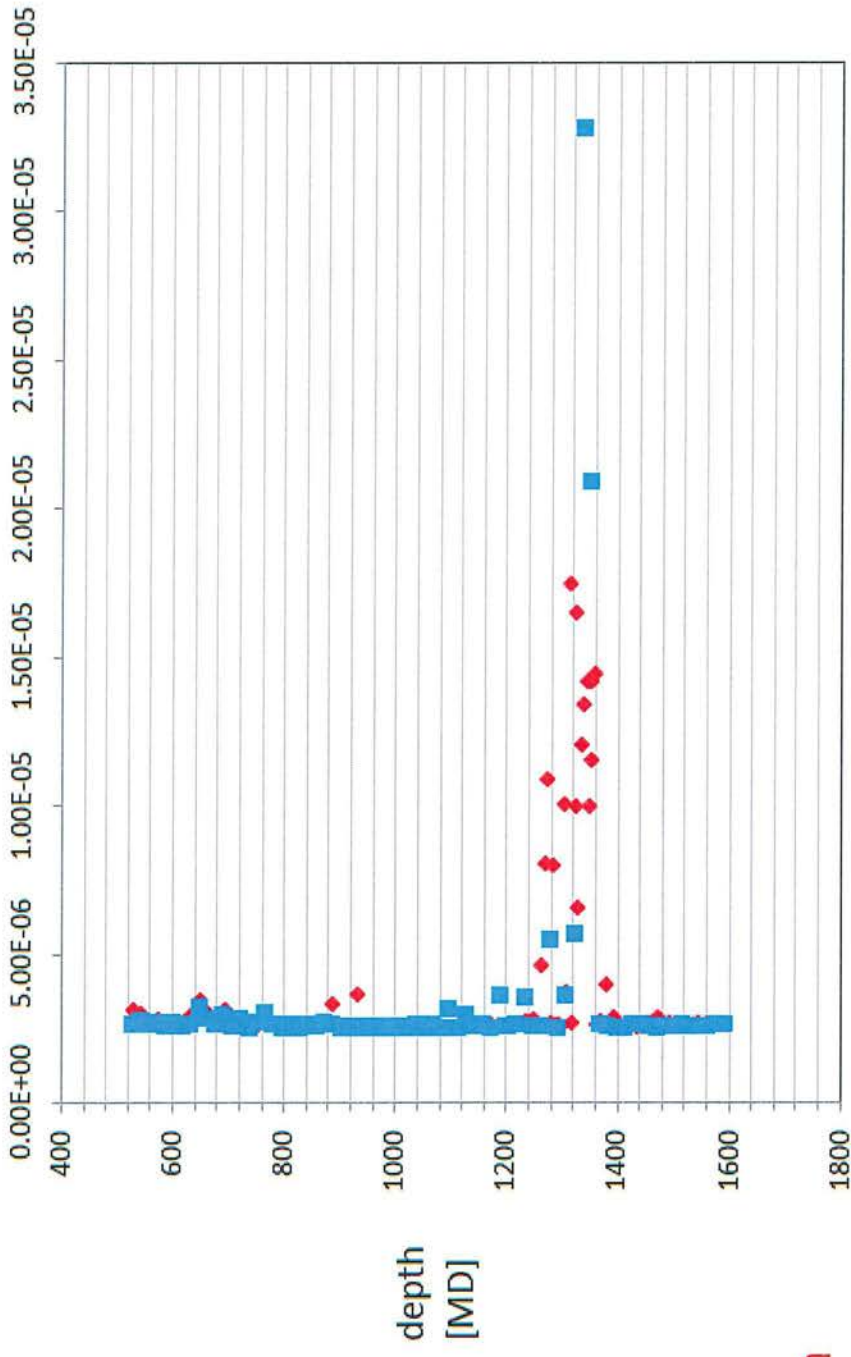


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Noise measurement (unfiltered data)

median RMS sum (x,y,z) for 1 - 2 minutes noise measurement [m/s²]



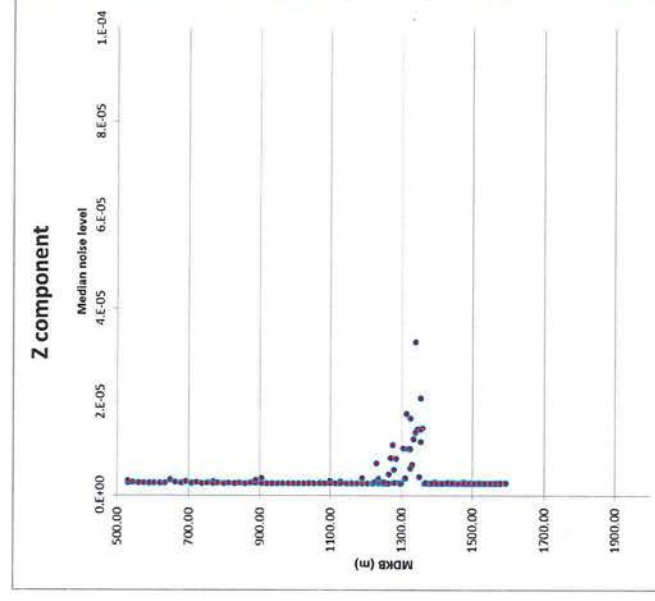
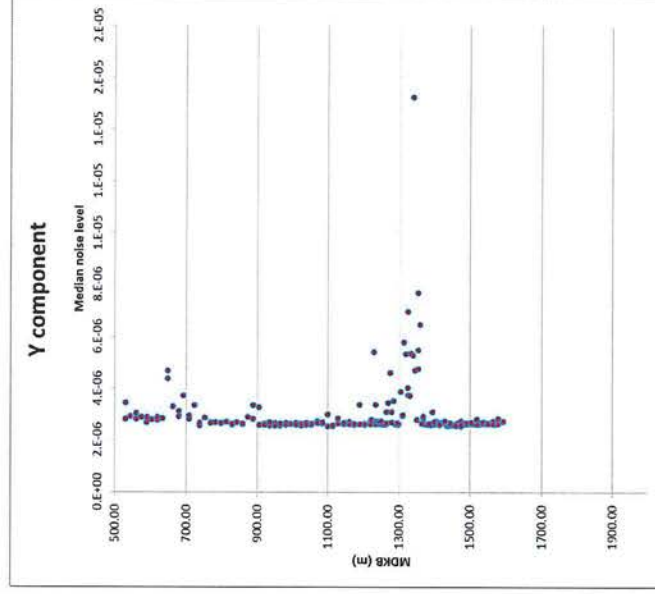
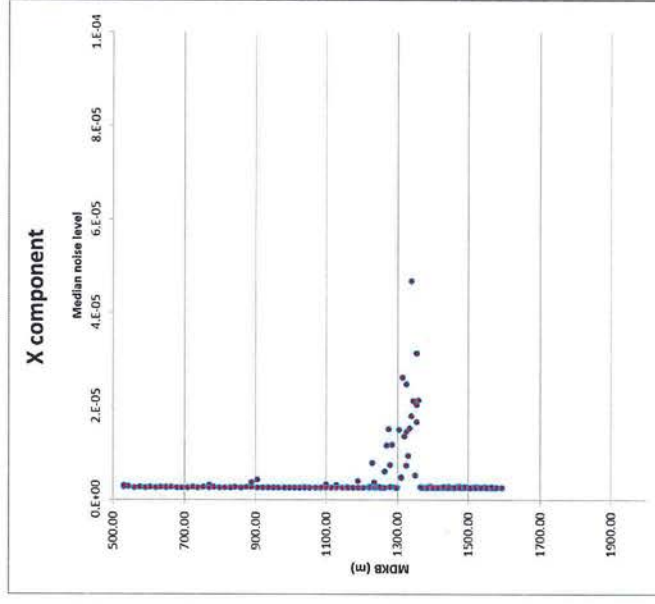
rig down
rig up



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Casing vent identification



Microseismic Services
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Schlumberger



Eric Hanson
Supervisor Central Mackenzie Valley
ConocoPhillips Canada
401 9th Avenue SW
Calgary, AB T2P 2H7
Tel. 403.532.3527
Fax. 403.532.3403

May 13, 2014

Chief Conservation Officer
National Energy Board
444 Seventh Avenue SW
Calgary, AB
T2P 0X8
Canada

Attention: Patrick Smyth

SUBJECT: OA-1211-002 - Submission of COPRC Loon Creek O-06 Re-Entry Well History Report

Dear Sir:

ConocoPhillips Canada Resources Corp. ("ConocoPhillips") hereby submits the Well History Report for COPRC Dodo Canyon E-76 as per requirement 3 of the Approval to Alter Condition of Well Term and Conditions. This submission contains:

- Two paper copies of the Well History Report
- Two paper copies of microseismic interpretation
- One electronic copy of the Well History Report
- One electronic copy of final microseismic interpretation

Also enclosed is one copy of the Well Termination record for the above noted well.

Please direct any questions or concerns concerning this submission to my attention at (403) 233-3250 or Cyril Jenkins at (403) 233-3326.

Sincerely,

Eric Hanson, P.Geol (AB)
Supervisor Central Mackenzie Valley
Chinook Appraisal



Instructions for Form Completion

This document is a Microsoft Word Form

- All parts of this form are locked except for those areas (fields) available for data entry.
- Open this form as a “copy” in order to preserve the original for future use.
- Place your cursor at the beginning of the field you wish to complete.
- Type in the relevant information. All fields are large enough to accommodate the data required. Fields on the form where large amounts of information are to be entered are self-expanding. If you find there is not enough room in a field to put in the information, check that the information you are entering is in the correct format.
- Note that some fields have a drop down list to assist in data entry and clarity as to the type of information required. For these fields, click on the appropriate value from the drop down list to enter the value on the form.
- Once you have completed all required fields on the form, print one (1) copy then have the copy signed and dated in blue ink by a responsible officer of the company.
- The printed copies of the forms, along with the appropriate supporting technical documentation, are to be submitted to:

Chief Conservation Officer
National Energy Board
444 Seventh Avenue SW
Calgary, AB T2P 0X8

- The National Energy Board is implementing a process for submission of electronic application documents. However, until further notice, all application forms and supporting documentation must continue to be supplied as paper documents along with an electronic version on DVD/CD (.pdf preferred).



WELL TERMINATION RECORD

Well Name	COPRC Loon Creek O-06 65-10 127- 00			Well ID	300O06651012700	
Operator	ConocoPhillips Canada Resources Corp.			Current Well Status	Suspended	
Total Depth	1856m KB			Licence No.	Exploration Licence 470	
Location	Unit	O	Section	06	Grid	65-10 127-00
Coordinates (NAD27)	Surface		Lat	65 ° 06 ' 51.4 "	Long	127 ° 00 ' 30.6 "
	Bottom Hole		Lat	° ' "	Long	° ' "
Region	NWT Mainland					
Target Formation	Canol		Field/Pool	/		
Elevation KB/RT	257.60 m		Ground Level / Seafloor	252.40 m		
Spud/Re-Entry Date	30-Jan-14		Rig Release Date	2/17/2014		

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m KB)	Cementing (m³)
244.5	53.57	J-55	597.0	26.1
177.8	38.69	P-110	1856.0	32.1

PLUGGING PROGRAM

Type of Plug	Interval (m KB)	Felt	Depth (m KB)	Cement (m³)
Other	1690.56-1694.43	No		
Other	1725.96-1729.83	No		
Other	1767.56-1771.43	No		
Select	-	Select		
Select	-	Select		

PERFORATION

Interval (m KB)	Comments
1692.0-1693.0	"Upper" Lower Canol perfs sealed with casing patch over perforations
1727.0-1728.0	"Middle " Lower Canol perforations sealed with casing patch over perforations
1769.0-1770.0	"Basal" Lower Canol perfs sealed with caing patch over perfortations
-	

Lost Circulation/Overpressure Zones	n/a
Equipment Left on Seafloor (Describe)	n/a
Provision for Re-entry (Describe and attach sketch)	Wellbore is full of water with propylene glycol pill sitting from surface to +/-100 m KB
Other Downhole Completion/Suspension	

I certify that the information provided on this form is true and correct

Name	Eric Hanson	Telephone	(403) 233-3250 Ext
Job Designation	Team Lead, CMV project	E-Mail	eric.S.Hanson@cop.com
Operator	ConocoPhillips Canada Resources Corp.		
Signature		Date	05/12/2014
	Responsible Officer of Company		

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Job Designation		Well Identifier		Unique Well Identifier	
Signature		Date			
	NEB Authority				

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