# **PIPELINE COMMANDER** TECHNICAL DATASHEET



+80 CUSTOMERS

Description of the second sec







## Part of the MCS Group mcsoil.com

# OVERVIEW

MCS has more than 20 years' experience in subsea data management and inspection of underwater structures. We have designed a cutting-edge software system for data acquisition and processing to overcome challenges in the inspection and reporting of underwater pipelines.

#### **OUR APPROACH**

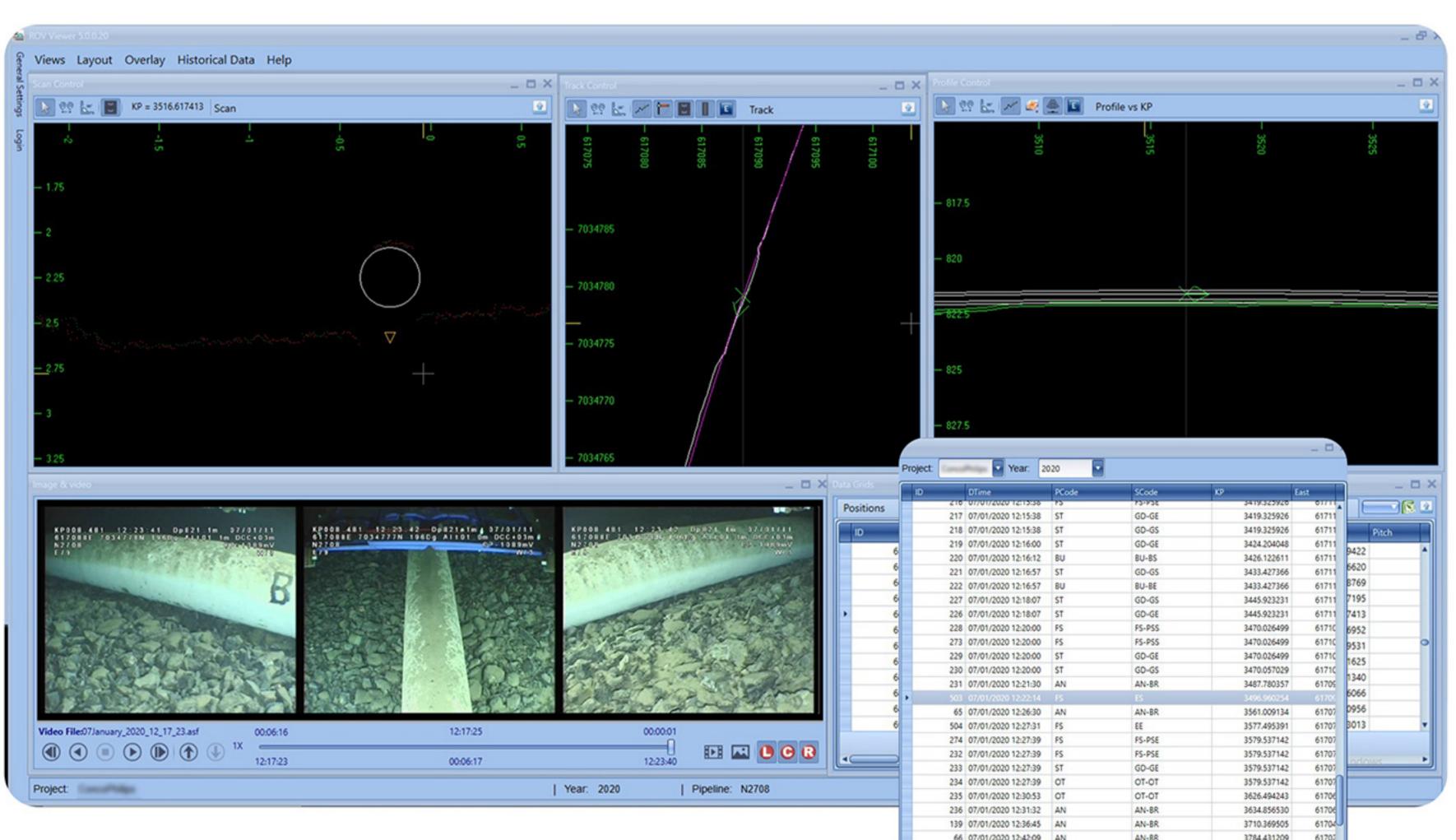
Our fully integrated Pipeline Commander system is a planning and management tool for the inspection and condition monitoring of underwater pipeline cables, flexible lines, and flying leads throughout their entire life cycle. Three modules including data acquisition, processing and deliverables provide bespoke charts, reports, and real-time viewing at your fingertips. The system streamlines data from multiple ROV cameras and combines them into one extremely accurate, synchronized 3D visualization, within a user-friendly interface.

#### **TYPES OF INSPECTION / SURVEY:**

- Pipeline pre-lay survey.
- Pipeline as-laid & as-found survey.
- Pipeline Crossings.
- · Touchdown monitoring.
- Free Span correction.
- Pipeline Expansion Loops.
- Expansion Joints.
- · Pipe support device.
- Buckle arrestors.

#### **BENEFITS**

- Real-time viewing, highly accurate data and automatic data processing with advanced algorithms allows for faster reporting times and reduces the need for human intervention.
- It's scalable and fully secure and encrypted to prevent data loss or corruption.
- Data processing can be completed onshore which results in cost savings.
- The system is flexible and capable of handling third-party inspection applications and data formats.
- The system can be integrated with our cutting-edge 3D Photo Realistic Cloud (PRC) technology.

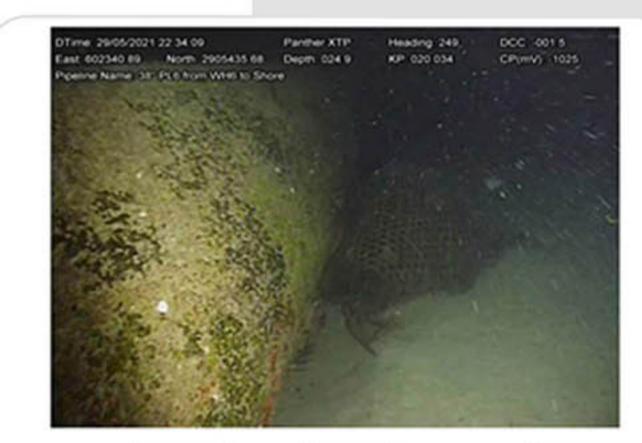


44	01/01/2020 12:42:09	ALC: N	HIN-DIN	3104/431209	01105
67	07/01/2020 12:47:39	AN	AN-BR	3858.674838	61701
68	07/01/2020 12:54:30	AN	AN-BR	3932.989937	61695
151	07/01/2020 13:00:05	AN	AN-8R	4007.989791	61697
69	07/01/2020 13:05:42	AN	AN-8R	4082.682701	61696
70	07/01/2020 13:11:26	AN	AN-BR	4157.070263	61694
71	07/01/2020 13:12:12	ST	GD-GS	4167.575479	61694
152	07/01/2020 13:13:52	ST	GD-GE	4193.636501	61693
153	07/01/2020 13:13:52	ST	GD-GS	4193.636501	61693
72	07/01/2020 13:25:47	ST	GD-GE	4348.241003	61690
73	07/01/2020 13:28:08	AN	AN-BR	4379.718001	61685
74	07/01/2020 13:34:55	AN	AN-8R	4454.145002	61687



#### **RELIABLE AND PRODUCTIVE**

Pipeline Commander ensures the efficient and cost-effective collection of high-quality inspection data. It detects and removes any inaccuracies from readings and data conversion without suspending data gathering or processing. Advanced features and automation facilitate the inspection workflow which saves man hours and allows the project team to focus on the details.



ID	1215	КР	20.029 Event Code DB-I								
Anomaly Code	DB	DB Severity Low									
Description	Fish trap, M	North side, in	contact, app	prox. 1.0m length x 0.	5m width x 0.5n						

Automation - The software automatically detects pipelines while processing to save time.

Risk Detection - Real-time anomaly alerting, tracking, and auditing. Integration - Analyses pipeline integrity between track, longitudinal profile, cross profile, CP, and events.

Synchronized - In-line Inspection (ILI) is aligned with GVI data and video. Multitasking - It brings together all ROV inspection data into one single viewer.

High quality video - Pipeline Commander can record HD videos, with a compressed size, for ease of transfer without compromising on quality.

Visual Overlay - Built-in video overlay displays relevant information

Remote inspection All inspection aspects can be run remotely through our Remote Operation Centres (ROCs)

Image 6.116: Fish trap



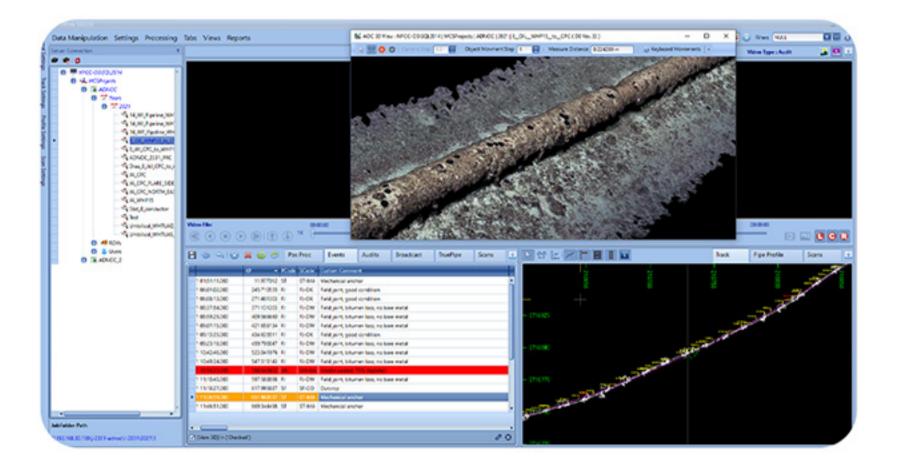




#### **BESPOKE TO YOUR REQUIREMENTS**

#### The system can be integrated with our cutting-edge 3D Photo Realistic Cloud (PRC) technology which presents a highly accurate 3D visualization of scanned objects synchronized into digital videos.

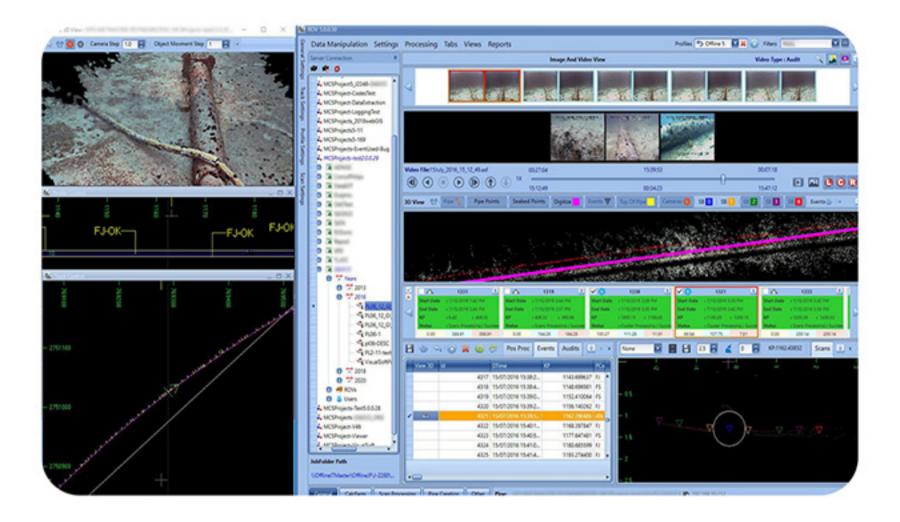
It can also be enhanced with mechanical profiler systems or multibeam for the ability to view, process and analyze 3D models using color-coded Digital Terrain Models (DTM).



### ANTICIPATE YOUR SCHEDULE

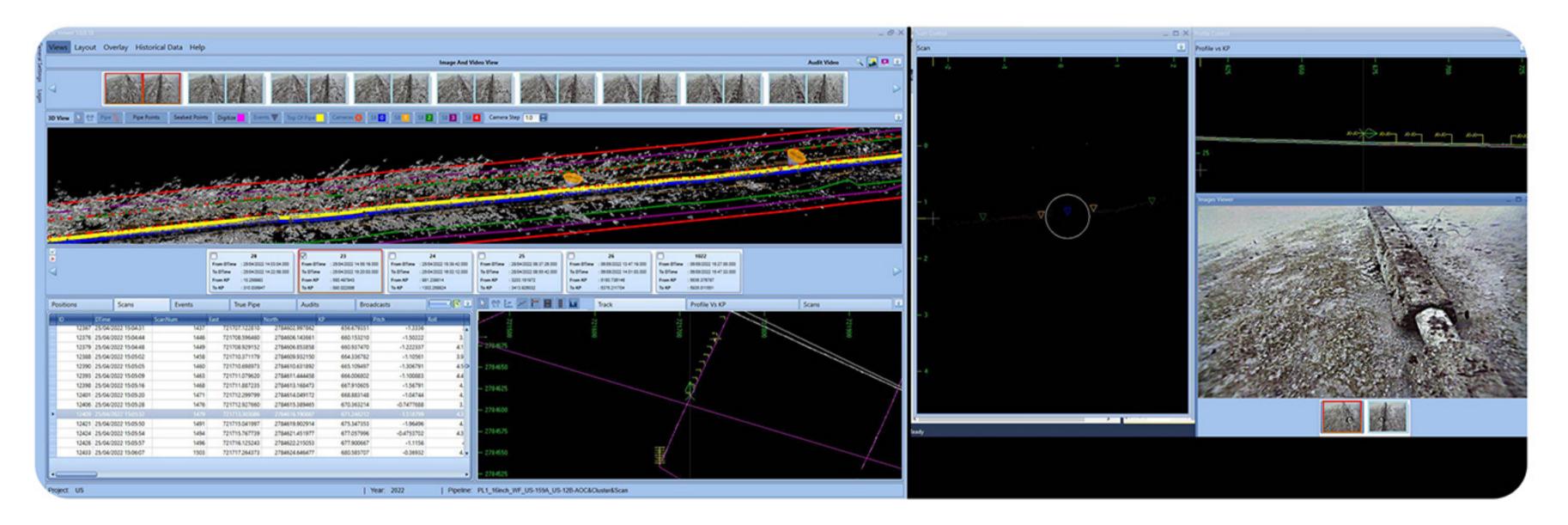
**The Area of Concern (AOC)** feature helps our clients be future oriented by allowing them to track and analyze where problems may occur on their assets with in-depth investigations into specific areas.

For example, it can perform a 360-degree inspection around new areas of landed pipeline.



#### CLUSTERING

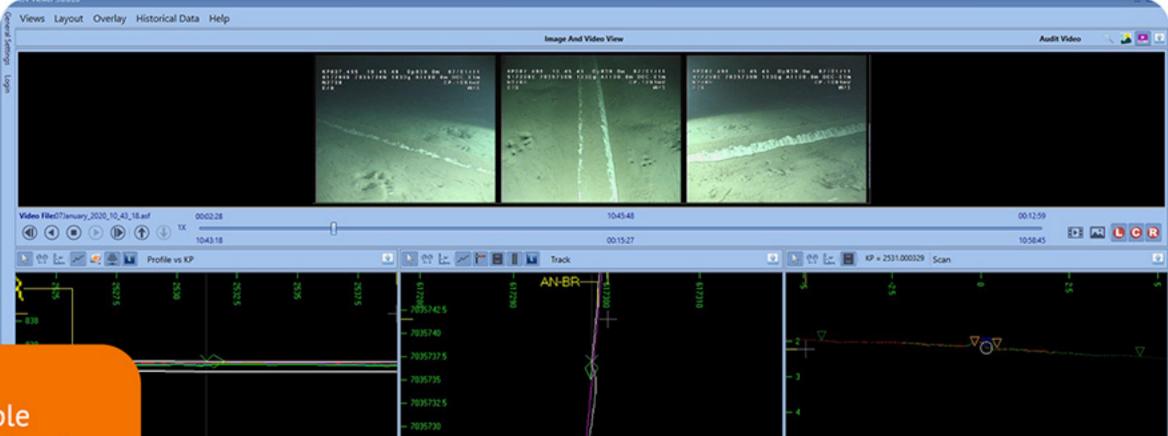
The system uses clustering to divide the inspection information from hundreds of kilometers of pipeline sections and events into synchronized datasets to accelerate processing time and allow precise investigation and analysis.



#### **OUTSTANDING DELIVERABLES**

#### The Pipeline Commander viewer

consolidates all the ROV inspection data into one user-friendly interface where clients can access fully synchronized data, high-definition videos and produce and print customized reports.



Simultaneously display data from multiple

# years and events for comparison in one simple viewer interface.

_				2010/2017 0										
	Scans			Events		True Pipe			Audits		Broadcasts			
	Ofine	Rode	Scode	9	Last	North	Seabed Depth	Burial Depth	Pipe Depth	Length )	eight .	Width	ø	Gamme
16	61 07/01/2020 10:19:51	ot	10-10	2163.753947	617336.995954	7036102.314158	841.0233		840.9822	0	0		0	
4	42 07/01/2020 10:25:08	AN	AN-8R	2230.017782	617326.938848	7036036-826607	839.6316		839.5518	0	0	6	0	0
16	56 07/01/2020 10:30:18	AN	AN-8R	2303.549309	617319.723351	7035963.651746	841.611		841.4833	0	0	1	0	
4	43 07/01/2020 10:35:16	AN	AN-8R	2377.321354	617312.732260	7035890.228658	840.8922		840.7896	0	0	E	0	0
	44 07/01/2020 10:40:17	AN	AN-8R	2452.108044	617305.455675	7035815.720119	840.1275		840.0114	0	0	1	0	0

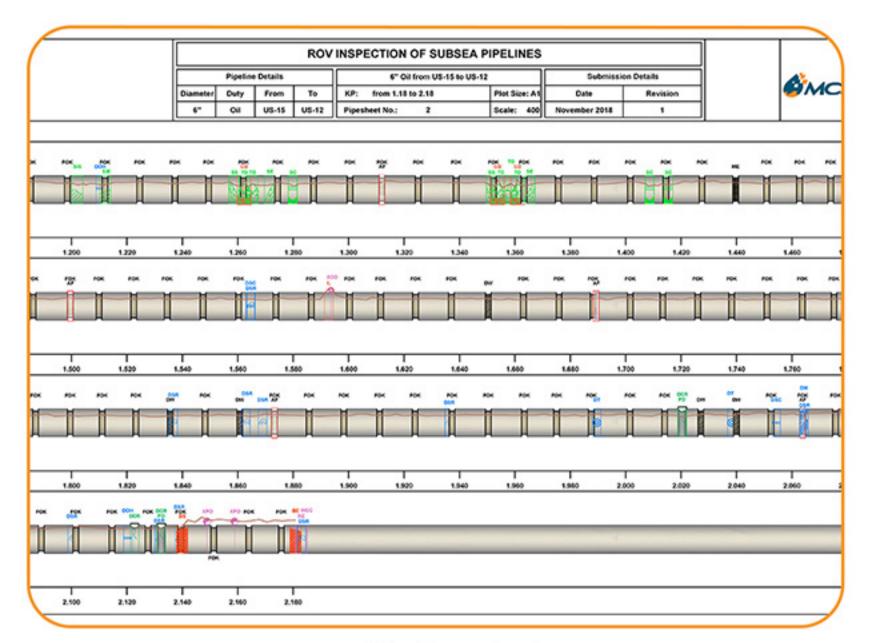


3

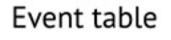
Reports & Charts: Our Pipeline Commander offers a flexible solution to present large data sets through interactive modules and bespoke reports for all inspection assets.

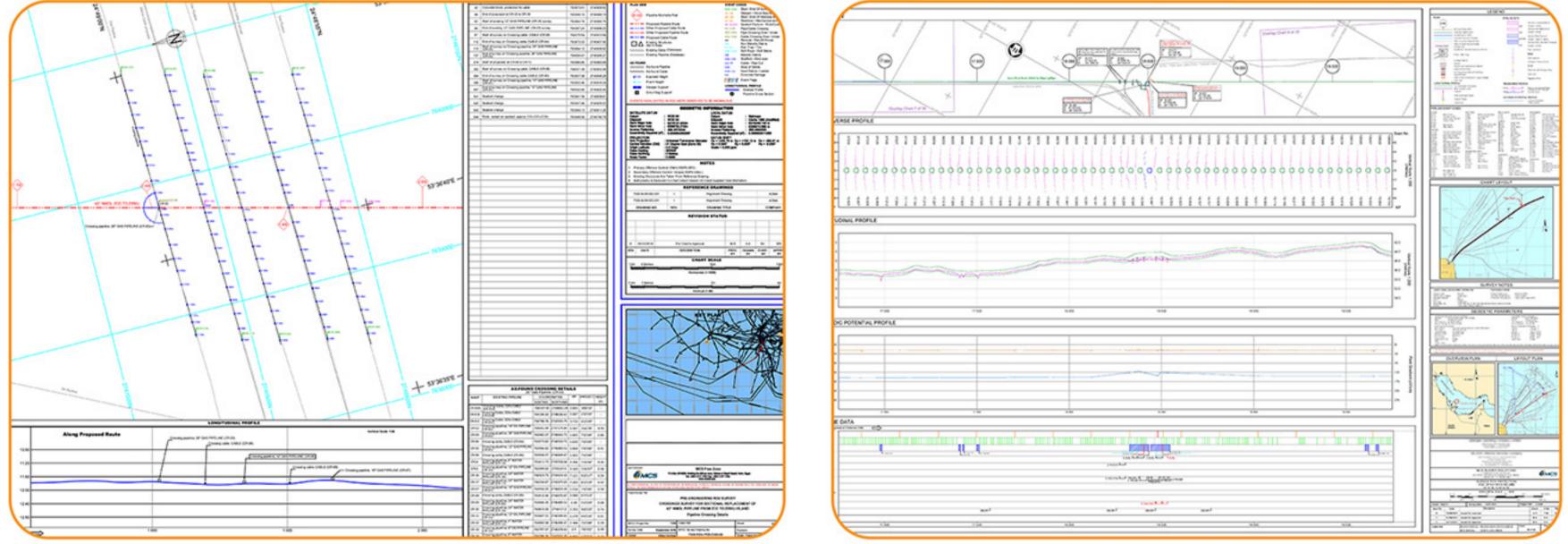
Automated charting and reporting, 3D visualization and an easy-to-use viewer module allow faster data delivery which means preliminary reports are possible within 48 hours of the last dive.

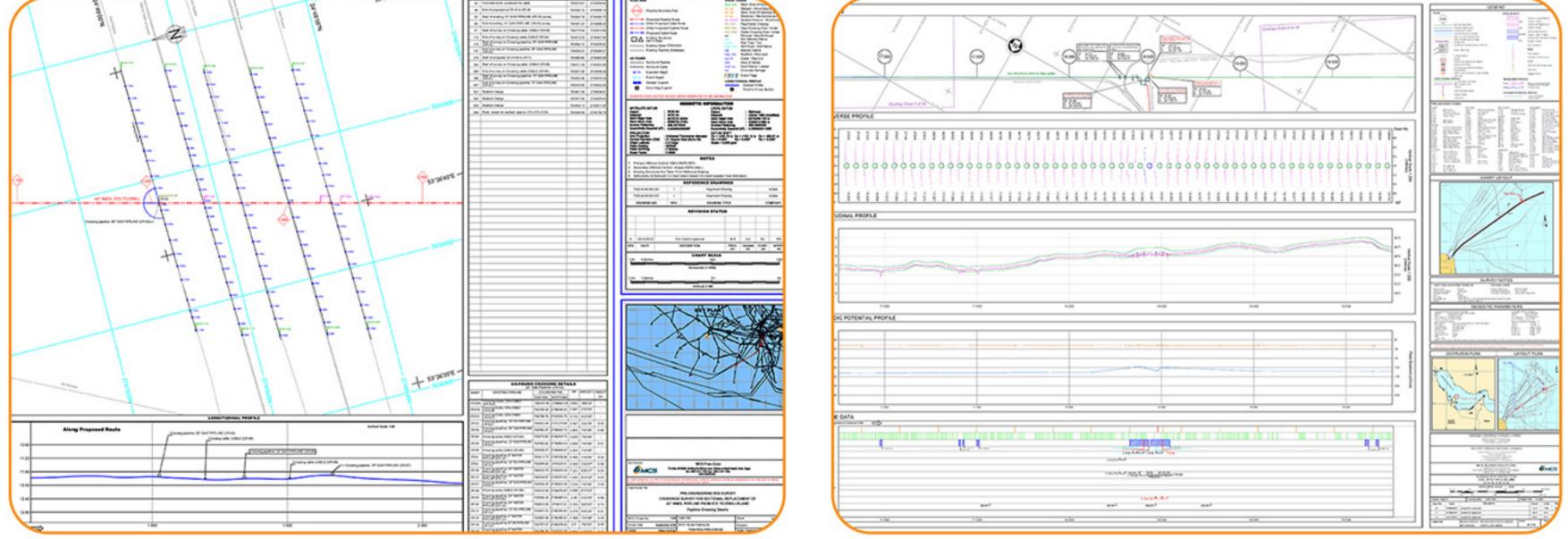
			Canada and Annual State State Canada Contraction (18-17)	Tank its	1.00		
ID	Date Time	Event Code	Comment	КР	Easting [m]	Northing [m]	Location
1005	29/05/2021 17:35:15	DB-SR	Soft rope, crossing over the pipe, not in contact, greater than 5.0m length	17.556	604383.26	2906827.61	38in PL6 from WH
1194	29/05/2021 22:01:02	DB-SR	Soft rope, crossing over the pipe, in contact, greater than 5.0m length	19.796	602535.83	2905563.47	38in PL6 from WH
1215	29/05/2021 22:34:09	DB-NT	Fish trap, North side, in contact, approx. 1.0m length x 0.5m width x 0.5m height	20.029	602340.63	2905436.06	38in PL6 from WH
1236	29/05/2021 22:52:51	DB-NT	Fish trap, North side, in contact, approx. 1.5m length x 0.5m width x 1.5m height	20.258	602146.97	2905314.10	38in PL6 from WH
1248	29/05/2021 23:30:35	DB-NT	Fish trap, North side, in contact, approx. 1.5m length x 1.5m width x 1.5m height	20.323	602091.23	2905280.47	38in PL6 from WH
1259	30/05/2021 00:04:27	DB-NT	Fish trap, North side, in contact, approx. 1.0m length x 0.5m width x 0.5m height	20.412	602021.04	2905225.92	38in PL6 from WH
1274	30/05/2021 00:28:05	DB-MW	Metallic frame, North side, in contact, approx. 1.0m length x 1.0idth x 1.0m height, previously reported during 2015 campaign	20.577	601894.10	2905120.86	38in PL6 from WH
1316	30/05/2021 01:22:55	DB-DR	Oil drum, North side, in contact, approx. 1.0m length x 0.5m width x 0.5m height	21.108	601477.16	2904790.96	38in PL6 from WH
1344	30/05/2021 02:06:40	DB-SC	Scaffold, North side, in contact, approx. 1.0m length x 0.5m width x 1.0m height	21.338	601297.16	2904648.84	38in PL6 from WH
1378	30/05/2021	DB-NT	Fish trap, North side, in contact, approx. 1.5m length x 0.5m width x 0.5m height	21.911	600846.87	2904294.05	38in PL6 from WH



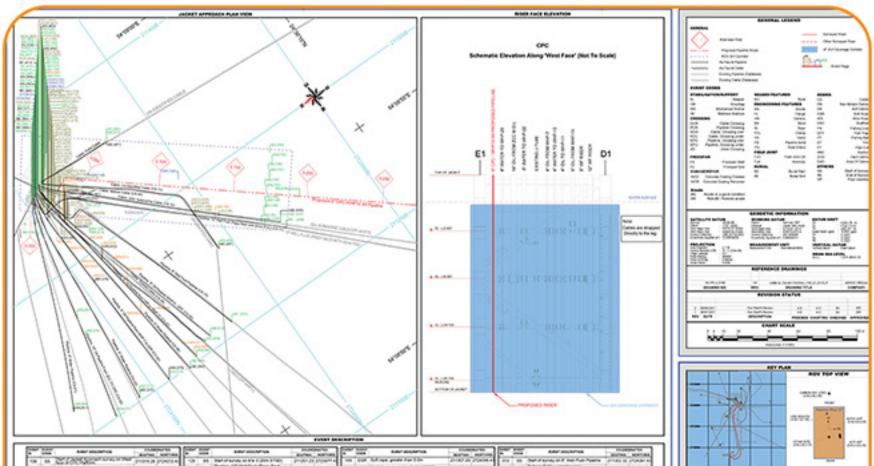
Pipeline sheet







Existing pipeline chart



Crossing chart

108	-	Service and a service and	protecting and property and	10	85 Bart of subsy on the 3 (20x 12 (ad))	Souther State Solding and	100		And oper production in the later	prosit pa priprint	1 20			111,000.00	property and				10.00
279		Start of substyor line 1 (Non-8780)	provide an article of the		AP THIS TO A PAR PAR BAR	property on provide to	14	14	End of survey on line 8.(by PORT)	provide proses	4 1 10	1404	Advertisian productor.	2108.0	170408-04			-	
**	.00	Patrix 2' dist Push Patrix	property of process of	-	de Grunne	property on provider to	141		Bahd share on the 8 (Idn PORT)	Solice of Solices	41	1404	Warm fam. many sale white dama	- p+000 P	2704081-20		1 1 1 1		
-	.40	Paperse IF and Past Papers	process on princer to	1.00	don mariners apportion angle	2101034-25004-4	14	- 64	End of sprong on loss \$1,70 m PORTs	2108 m 22602	4[=	- 14	End of agriculy and " Multi Public Publics	211088-0	provine and		PERSON	PORM TOX	
***	.40	Patrix # 01 Patrix IMPIG-GPC	pressives provides as	- 90	JD Cate New Cate	2100 TO 210404.2	10	88	But d'unay je ina 10 (19x PORT)	21022-0322008	41		Name of South Octor and Purciples	211216-1	170,000.00	1111	· · · · · · · · · · · · · · · · · · ·		
79	.40	Parms 4100 Parms from Office could re-	property and property of	- 10	AD Calm. Bulture Calm	protection price (second price	14	00+	water and the second of the lot of the	Desited and Deditional	4[39	10	Cale, UniterPlat Cale, prising unit	r 2-100-2	2704010-000				
-	ah.	fuends arrows	product be principle and	1.00	.4) Aprile & Dr.Ppetre DAL - ImiPiti	2101102-0020-0	-	- 64	End of survey on loss 10,7514,76(407)	2107434 (21284)	4[~	1404	Adventigation country and		provine or				
276	.40	Cate, Subara Catte	Principal (Principal and	1.00	(d) Pastra, 4' Di Pastra Nati (M' a 104-10	210010-210-20042	14	98	But d'anay in the 11 (Developer),	property promet	4[=	. 44	And of the state of the state of the		2724088.00		The Case	Descentra .	
-		Patrix of Asia Patrix	property of property of	1.00	as debut a new or the holder \$790s	21040363535068	-	84	British advances on one to upper Paperty	provide an provide	4[=		Ball of salesy on if itselfs Payettee	2-0-0.94	170410-00			AL 10	ICS FREE ZONE
-	.40	Carlow Party of the Party has	2103130 2734082	1.00	(8) Rehallences on the K(Hon BTIRD)	2100102-020540011	140	- 94	Not d'autagionitra 10 (SectiON)	Sector to Subset	412		Burg start	21010.00	100100-00			OMCS	First, married in the
-	00*	Part Addre approx 5 Ser langth	PTODA NA (PERSONA DA	1.00	(c) Pastra, CO. Pastra has (201 a 10th 10	prior to proceer	10	94	End of survey on the 10-2014 POHTy	21-206.5x 272744	4[~	- 14	Are et	211000.71	170404.00				
-	004	Both datum, and the block in	property (repeated)	1.00	AD THE R. O. S. CO. Post Phys. Rev. etc.	210010-00250-0051	29	8.0	Ref of schemes for the Restriction doe	property process	4[20	1.94	And of samely at if Halter Papeline	2-100.71	PERMIT		CONCLUSION OF CONCLUSION	the restant while	
-	96	End of survey on loss 1 (Non 18780)	processing a provine and	10.00	56 End al autory on the \$1/3+127801	PHONE PERMIT A	24	40	Bune earl	21030630 (75908	4 1 ==	1.66	Statistication of Pater Paritie	21002.0	170404114	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Contract of the local division of the local	A REAL PROPERTY AND A REAL	and the local district of the
-		Start of autory of the 2-0504 \$7805	PRIME IN PROPERTY.	1.00	\$5. Ownershares as inv 5(10x 0100)	21-227 NO 2722988 1	20	44	The approx 10 x 10 x 10 m and will	210410-0020486	41.0		Bune earl	2-100.0	170408110		ERC FOR LANK AL BALKY BARK	PRODUCTION SCHEME!	1996-0017
	.00	Catra, Warna Catra	press to prove to	II ~	al debutances are bottle \$790.	process programmers	100	0.0+	Particular agent that the life life.	print of prints.	4[22	1.04	Bune and	3-00-8	property in				
•	.40	Papeline, & Dr. Papeline Name (1997 Ap. 1998-11)	21100247 (270-084.30	11 19	as denoted as we are a product of	PRIMA DA DEMANDA	214	- 44	Burlet and	210031-011 (12)4084	41 **	1.04	End of kyroly on C' Matter Papeline	210014	primer in		and the local data	Index Approach Barray	
-	.00	Cate, Subara Catte	property of provide to	-	M. Entrance in the Low PROV	21-202-45-2707488-8	24	94	And all spring on the dat Paperty Run Dat	property of property.	4 1 10		Ball Party of P Differentian	2-126.0	170408-08	l ller			
-	.40	Patrix # (n Patrix IMPS - (H)	property process in	1 100	sis diset of substy of the P	property process of	24			prime of primes	4[15	86	Buna ann	2-086.75	Proceeds.		a contract of the second second		
-12	.40	Papeline & And Papeline	property of provinging	1	or and a second of the P	prosent process	394	100	Water and an analysis.	210306-00 2724085	4 1		Burg and	21000	170404170		Proposed 8' from CPC to 8	APTS IN Partice (In	And Parcels
10	.40	Paperse & dist Past Papers	pression of provided in	-	S5. Bahahanay wate b(bah)(07)	prosently private to	144	100	bitteridts ranna om	210303-0022048	4[=	100	No. Parket and up	2-124.5	10000 million		course on contract		All page 1
104	44	Energy and an inter in prior. \$78(5)	properties (properties	140	0.00 Self-scat agents in the weight	property of property of	212	- 98	TO FORTS MANY IF IT PARTY	process of provide	40	140	Metaland and a	proper er	170406-40		ACTION NO. OF COLUMN		- 10 Mar -
-	-			- Carina			Said-				- Citt.	-				-	the contract states	And the second second second	+ 1400

Jacket approach and Jacket face



4

