International Construction Consulting, LLC

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OVERVIEW

International Construction Consulting, LLC

- Services
- Typical Projects
- Clients
- Domestic/International Project Locations
- Contact Information

Services

- Conceptual Engineering and Design
- Budgetary Cost Estimates
- Detailed Cost Estimates
- Execution Planning
- Independent Project Reviews
- Feasibility Studies
- Project Management
- Project Management Training
- Construction Management
- Miscellaneous Support

Services (con't)

- Conceptual Engineering and Design
  - Hydraulics and Line Sizings
  - Wall Thickness and D/t Calculations
  - Design Basis Memorandum's
  - Class Locations
  - ANSI B31.4, B31.8, API 5L & Associated US and International Codes and Standards
  - Pipeline Route Selection
  - Valve Studies

Design Basis Table – Typical DBM Output

Gas and Product Stream Interface Specifications - ALBERTA NGL PLANT CASE

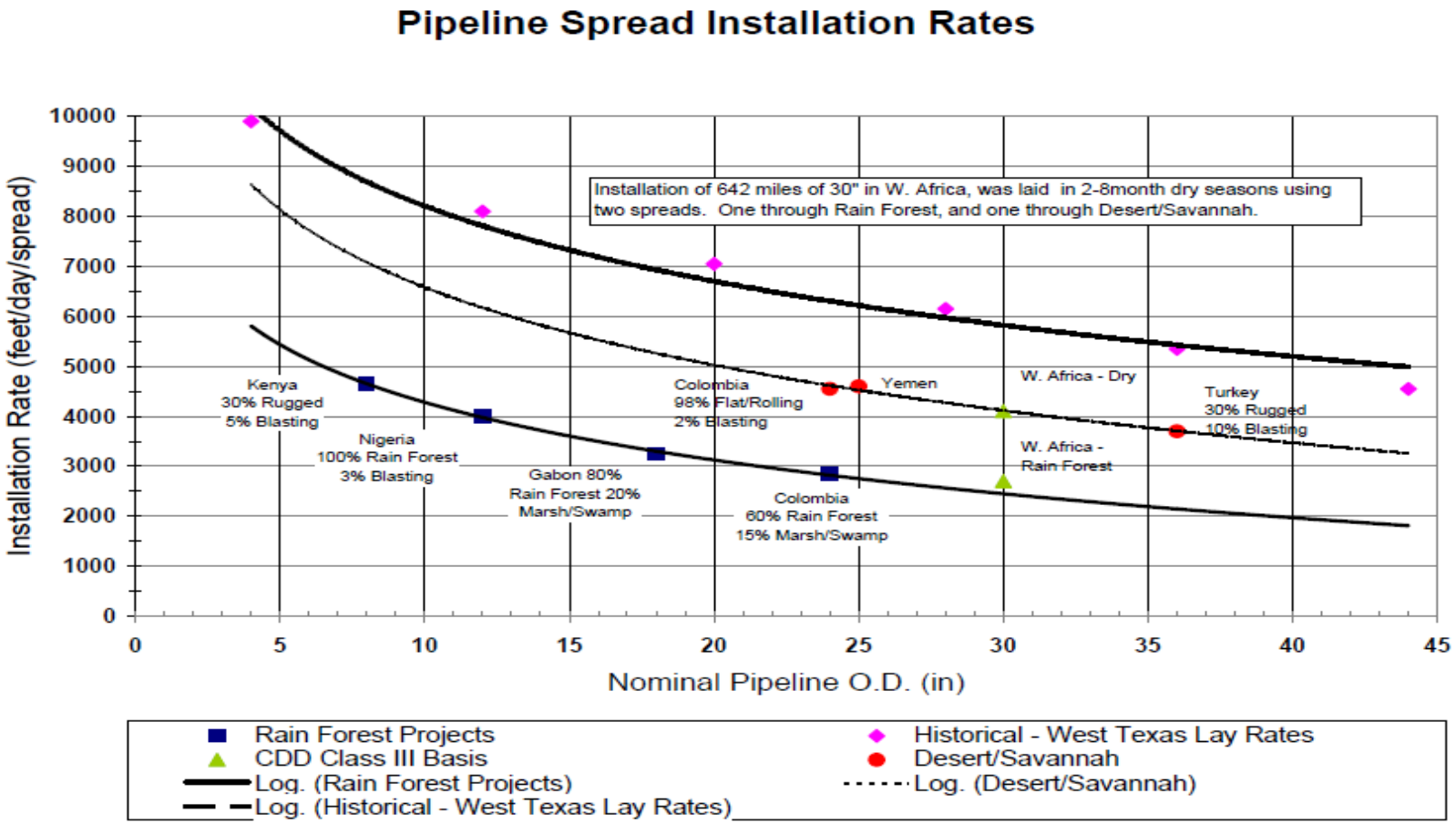
1.234 implied from specs elsewhere in the pipeline syst

	GTP Feed Gas	A-B' Pipeline Entry Gas		NGL Plant B' (Ft Sask) Entry Gas		B' - B Pipeline B (Vegreville) Entry Gas		B-C Pipeline Entry gas		Market (ILLINOIS) Delivery Gas Note 2	
Max/Min Pressure, psig	TBD	**2500/TBD**	Note 9	**TBD/1330**		**1300/TBD**		**TBD/TBD**		**TBD**	
Max/Design/Min Temperature, ºF	TBD	**32/30/28**	Note 9	**TBD/68/TBD**		**110/68/TBD**		**110/68/TBD**		**120/TBD/TBD**	
Cricondenbar, max psig	-	**1100** **1300**	(South) (North)	**required?**		**required?**		**required?**		**-**	
Cricondentherm, max ºF	-	**0**	Note 3	**-**		**14?**		**-**		**-**	
Hydrocarbon dewpoint, ºF @ psia	TBD	**-**		**-**		**-**		**14**	Note 1, 5	**-5 @ 800**	Note 6
Water content, max lb/MMSCF	TBD	**0.2**	Note 4	**TBD**		**4?**		**4?**	Note 1, 5	**4**	
Gross Heating value, Max BTU/SCF	-	**-**		**-**		**1050+**		**1050+**		**1050+?**	
Gross Heating value, Min BTU/SCF		*965*		**-**		*965*	Note 1	*965*	Note 1	**965**	
CO2 content, max mol%	TBD	*1.5*	Note 8	1.5	Note 8	*2*		*2*	Note 1	**2**	
N2 content, max mol%	-	TBD		**TBD**		TBD		TBD		**3**	
Inerts, max mol%	-	TBD		**TBD**		TBD		TBD		**5?**	
O2 content, max mol%	TBD	*0.4*		**TBD**		*0.4*		*0.4*	Note 1	**0.4**	
H2S content, max ppmv	TBD	4		4		4		4		**4**	
COS content, max ppmv	TBD	TBD		**TBD**		TBD		TBD		**TBD**	
Mercaptan content, max ppmv	TBD	4?		**TBD**		4		4		**4**	
Total Sulphur content, max ppmv	TBD	TBD		**TBD**		8 - 32		8 - 32		**8 - 32**	
Other Odorant	NO	**NO**		**NO**		**NO**		**NO**		**NO**	

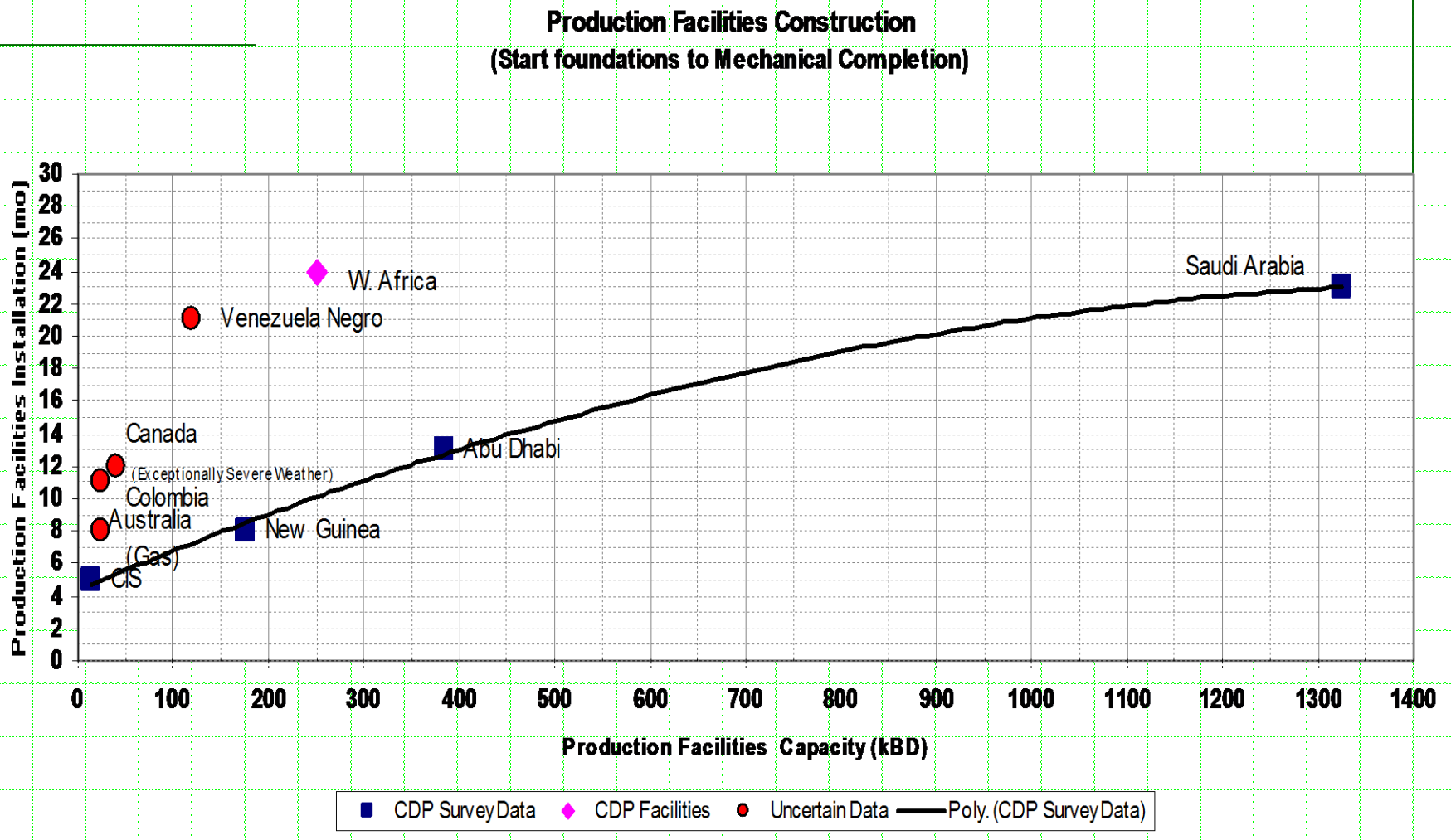
Services (con't)

- Conceptual/Budgetary Cost Estimates
  - Complete System Conceptual Estimates, including:
    - Engineering
    - Pipelines, Flowlines, and Gathering Lines
    - Compressor and Pump Stations
    - Production Facilities
    - Infrastructure (incl Roads, Well Pads, etc.)
    - Drilling
    - Field Facilities
    - Tank Farms
    - CAPEX, including Line pipe, Coating, Permanent Materials
    - Offshore Facilities
    - Telecom, SCADA, and CP
    - OPEX

Conceptual Cost Tools – Typical Output



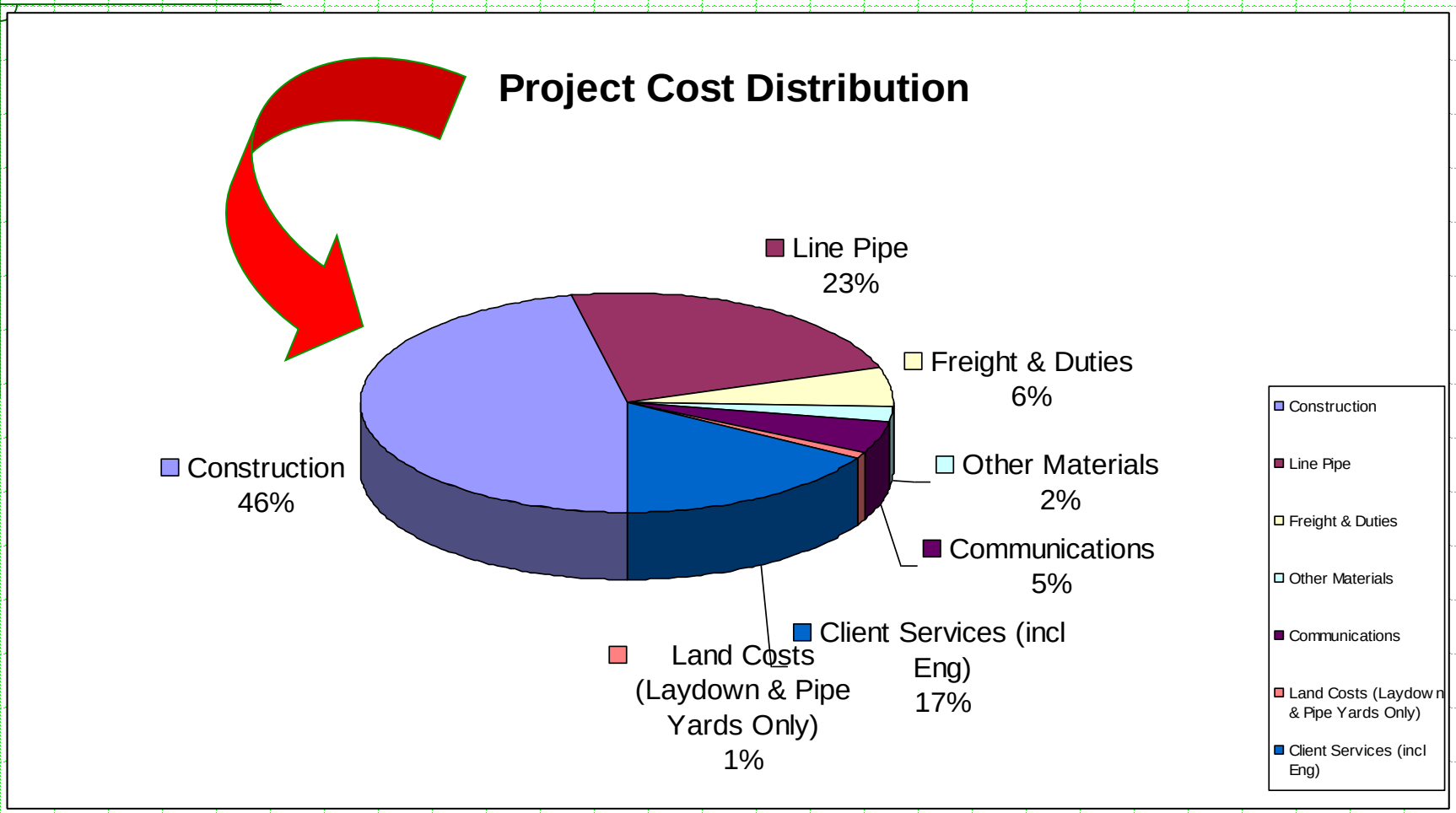
Conceptual Cost Tools – Typical Output



Services (con't)

- Detailed Cost Estimates
  - Labor, Equipment, and Materials
  - Mobilization, Freight, Camp Construction
  - Construction Management
  - Field Support Services
  - Detailed Crewing
  - Infrastructure Upgrades
  - Scheduling
  - Manpower Loading

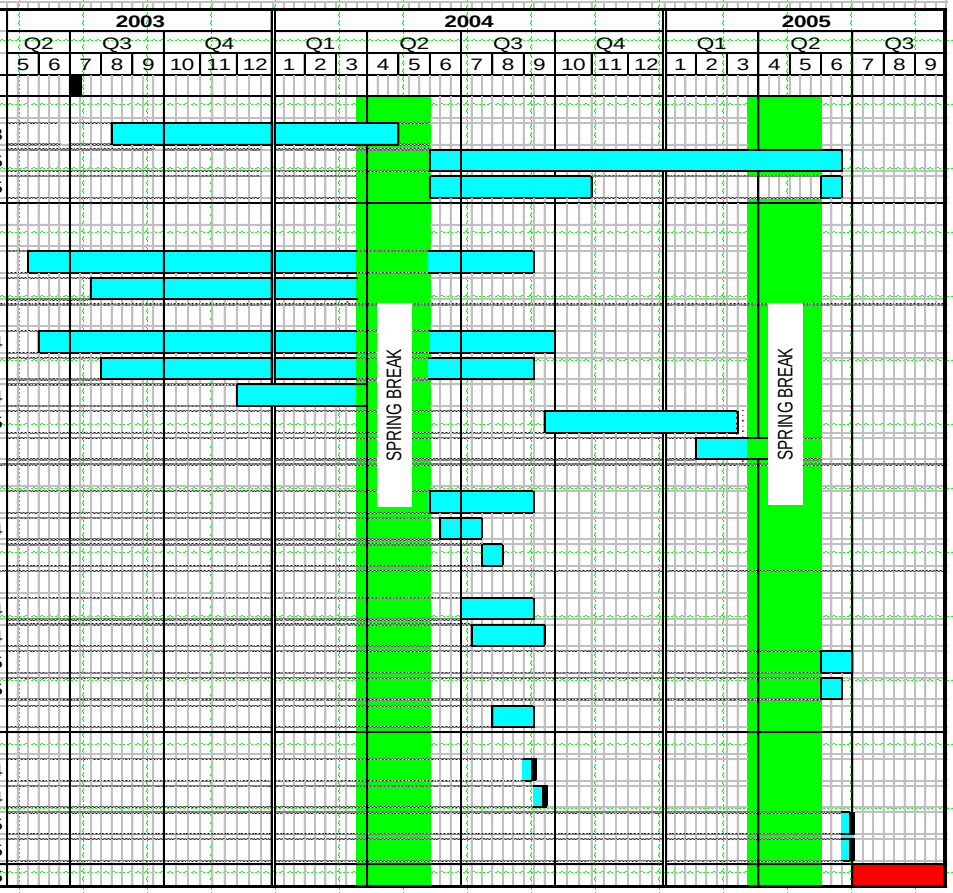
Project Cost Distribution – Typical Estimating Output



Project Schedule – Typical Level 1 Output

EPC-2 Pipeline, Flowlines & Export Terminal
Construction Execution Schedule

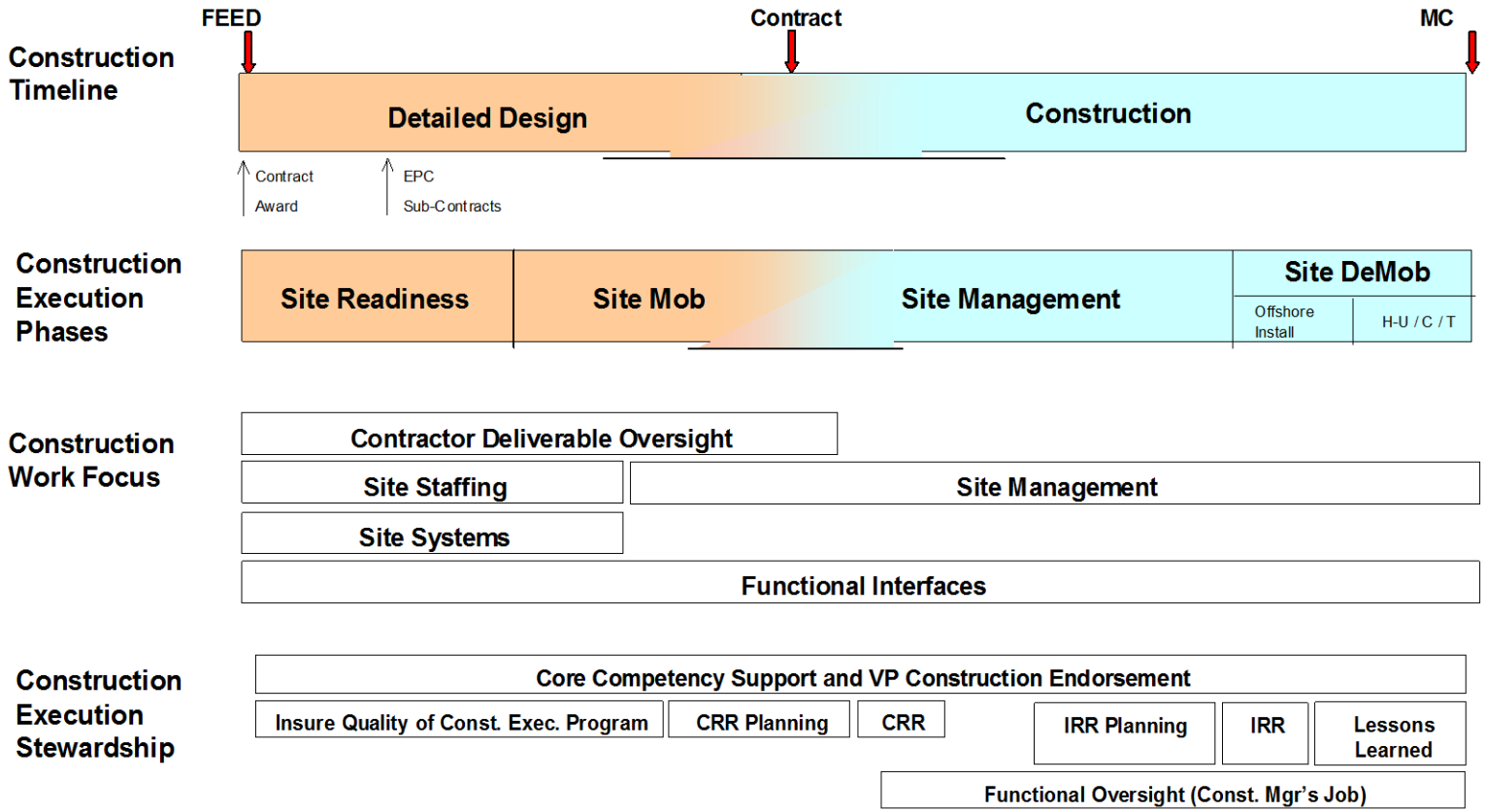
ACTIVITY DESCRIPTION	START	FINISH
CONTRACT AWARD		7/1/2002
EXPORT TERMINAL		
PRE-CONSTRUCTION WORK	8/1/2002	4/30/2003
ONSHORE FACILITIES	6/1/2003	6/30/2005
OFFSHORE FACILITIES	6/1/2003	6/30/2005
PIPELINE & FLOWLINES		
EAST COAST RUSSIA		
INFRASTRUCTURE & CIVIL	5/20/2003	9/3/2004
OIL EXPORT PIPELINE & SHORE CROSSING	7/28/2003	3/8/2004
SAKHALIN ISLAND		
INFRASTRUCTURE & CIVIL	6/1/2003	9/26/2004
OIL EXPORT PIPELINE & SHORE CROSSING	7/29/2003	9/2/2004
CHAYVO ONSHORE FLOWLINES	12/5/2003	3/28/2004
ODOPTU-CHAYVO FLOWLINE	9/18/2004	3/10/2005
ODOPTU GATHERING LINES	1/30/2005	4/9/2005
TATAR STRAIT & OFFSHORE		
SHORE APPROACH, DREDGING & BACKFILL	6/1/2004	9/9/2004
TATAR STRAIT CROSSING	6/14/2004	7/17/2004
ORLAN-CHAYVO FLOWLINES	7/18/2004	8/9/2004
HYDROTESTING & TIE-INS		
OIL EXPORT PIPELINE CHAYVO-DEKASTRI	7/1/2004	9/12/2004
CHAYVO ONSHORE FLOWLINES	7/10/2004	9/21/2004
ODOPTU-CHAYVO FLOWLINE	6/1/2005	6/30/2005
ODOPTU GATHERING LINES	6/6/2005	6/14/2005
ORLAN-CHAYVO OFFSHORE FLOWLINES	8/1/2004	9/5/2004
MECHANICAL COMPLETION		
OIL EXPORT PIPELINE		9/12/2004
CHAYVO GATHERING SYSTEM		9/21/2004
ODOPTU GATHERING SYSTEM		6/30/2005
EXPORT TERMINAL		6/30/2005
PRECOMMISSIONING & START UP	7/1/2005	9/30/2005



Services (con't)

- Execution Planning
  - Project Management Plan (PMP) Development
  - Project Execution Plan (PEP) Development
  - Engineering Management & Execution Plans
  - Preliminary Construction Planning
  - Detailed Construction Execution Plan (CEP)
  - Logistics Planning

Execution Planning



Services (con't)

- Independent Project Reviews
  - Risk Assessments & Risk Management Plans
  - Constructability Reviews
  - Construction Readiness Assessments
  - Operations Readiness Assessments

Services (con't)

- Feasibility Studies
  - Field Development Planning
  - Conceptual Engineering and Design
  - Conceptual/Budgetary Cost Estimates
  - Strategic Project and Business Planning
  - Risk Assessments (Business, Political, Currency, Market, etc.)

Conceptual Cost Estimates – Typical Overview Structure

Project Overviews

Project Description:	Sakhalin 1, Phase 1 Exxon Neftegas Ltd
Description	***Cost***
Pipeline Installation	$286,214,405
Mainline Pipe (includes FBE coating & shipping)	$117,462,948
Mainline Valves, Misc. Materials, CP System, Signs (includes shipping)	$15,730,563
Telecommunications	$43,367,500
Compressor Stations	$0
Tank Farms	$53,625,000
Pump Stations	$15,840,000
Production Facility	$962,500,000
Gathering Facilities	$53,222,400
Misc Facilities (i.e. meter stations)	$2,062,500
Offshore Facilities	$235,620,000
Infrastructure	$53,955,000
Drilling	$0
Engineering	$74,737,021
Subtotal	$1,914,337,337
Contingency - 20%	$382,867,467
Sub Total Installed Cost	**$2,297,204,804**
Client/Owner Costs	$59,789,617
Parent Company Operating Costs	$5,978,962
Sub Total Client/Owner Costs	**$65,768,578**
Total Installed Cost (TIC)	**$2,362,973,383**

Description	***Cost***
Operating Costs (typical year)	$17,229,036
Years of Operating	25
Total Operating Cost *	**$633,167,074**

Description	***Cost***
Total Installed Costs	**$2,362,973,383**
Total Operating Cost *	**$633,167,074**
Total System Cost	**$2,996,140,457**

**** Includes 2% per year for inflation/escalation.***
Construction phases include all materials.

CAPEX Costs

OPEX Costs

Total Installed Costs (TIC)

Services (con't)

- Project Management
  - Contracting Strategy
  - Project Management Plan (PMP)
  - Project Development and Identification of Key Objectives, Risks and Mitigations
  - Staffing and Organizational Development
  - Operations Strategy
  - Security
  - Engineering, Design, and Construction Interface
  - Scheduling

Project Management Plan – Typical Excerpts

Description of Deliverables

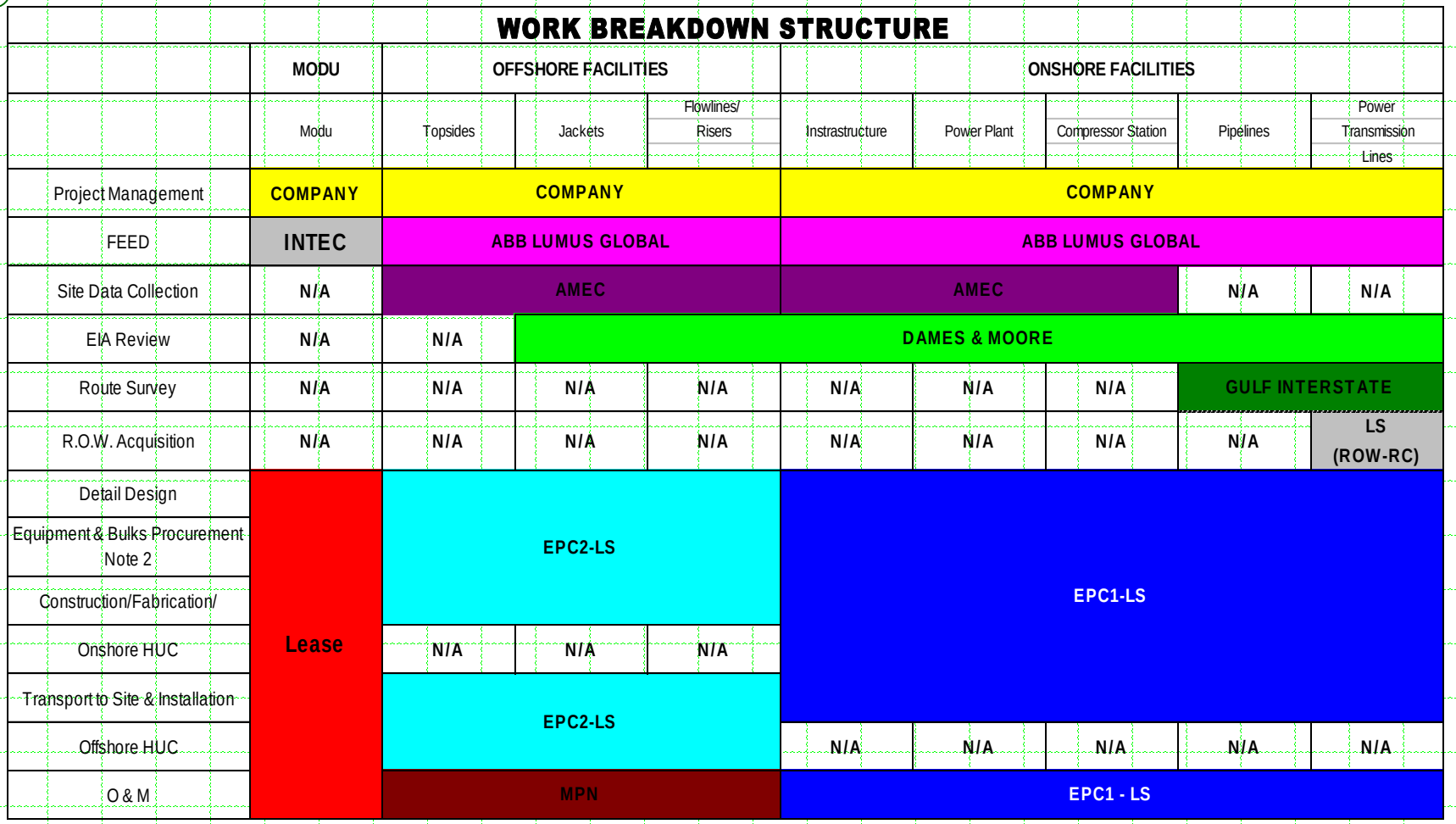
The following descriptions relate to the deliverables identified on the Project Management Process – Summary. The intent of the descriptions is to broadly identify the main elements that should be included in each deliverable. Where the deliverable appears in more than one Project Stage (e.g. External Affairs Plan) and is identified by words like *initial, update, apply, manage, final, etc*., it is expected that the level of maturation increases as the project progresses. Where the deliverable is named the same from stage to stage (e.g. Independent Project Review) that deliverable applies specifically to the time period of the gate in question, but can build off previous work if warranted. Finally, the team will need to determine when work on a particular deliverable should begin to ensure completion prior to a specific gate.

Project Management Plan (PMP)

☐ Project Execution Plan

- Project Overview
- Goals and Philosophies
- Organization Plan
- Appropriations & Funding Plan
- Engineering Plans
- Value Improving Practices (VIPs)
- Construction Plan
- Contracting and Procurement Plans
- Interface Management Plans
- Project issue resolution, identification of responsibilities
- Information Management Plan
- HSE Plans
- Risk Management Plan
- Regulatory, Permitting, and External Organizations plans
- Quality Management program
- Project Controls Plans (cost & schedule)
- Operations Involvement
- Commissioning and Start-up Plans

Project Management – Typical Work Breakdown Structure



Services (con't)

- Project Management Training

  The purpose is to provide a framework to continuously improve project management capability and performance consistent with business needs by systematic application of best practices that ultimately provide the following:

  - Better execution performance
  - Less variation in results
  - Single point description of management objective and expectations
  - Clarity of organization roles, responsibilities, and interfaces
  - Vehicle for communication, training and achieving project wide alignment
  - Basis for continuous improvement (common work processes, metrics, and lesson learned process).

Services (con't)

- Project Management Training

  A proprietary Project Management System is utilized and provides a phased approach whereby as project is broken down into five major phases:

  - Conceptual
  - FEED
  - Detail Design
  - Execution
  - Start-up and Commissioning

Services (con't)

- Construction Management
  - Detailed Construction Execution Planning
  - Logistics
  - Subcontracting Strategy
  - Equipment and Personnel Mobilization
  - Construction Sequencing and Scheduling
  - Engineering and Construction Interfaces
  - Constructability Program
  - Environmental Management Plan (EMP) Review

Construction Management – Typical Plan Overview

Preliminary Construction Plan

Project
Overv iew
Objectives and Strategies
Project ManagementSystem Overview

Construction
Execution Overv iew
Objectives and Strategies
Construction Management Overview

SITE - Work Specific
Work Description, Objectives and Strategies, Construction ManagementSystems & Plans (i.e. SH&E Plan,QA/QC Plan, Schedule)

Work Specific / Site Construction Execution Plan

Services (con't)

- Miscellaneous Support
  - Provision of Project or Construction Management Teams, Including Field Inspection
  - Project Specific Construction Specifications
  - Water and Waterbody Crossing Design and Construction
  - Tender Preparation & Evaluation Planning
  - Engineering & Design Review
  - Expert Witness

Tender Evaluation Plan – Typical Plan Overview

Invitation Letter

Attachment I Instructions to Tenderers

Attachment II Principal Document / Exhibits A-J

Attachment III Commercial Tender Form

Attachment IV Technical Tender Form

Attachment V Preliminary Engineering

- Pricing
  - Lump Sum & Reimbursables
  - Options
  - Unit Rates for Changes
- Local Content
- Guarantees, Insurance, Vessel Commitments
- Exceptions

- Execution Plan
- Management of Local Participation
- Project Management
- Component Specific Information
- Onshore Pipelines
- Offshore Pipelines
- Export Terminal
- Near Term Plans (PCW's, etc)

Buoyancy Control – Typical Output

Exxon Neftegas Ltd — 9-May-02
Sakhalin 1, EPC2 — Greg Lamberson
International Construction Consulting

Concrete Pipe Coating Summary

Description	Length	Concrete Coating Thickness (INCHES)	Labor Costs	Material Costs	Total Cost
Small Streams	0	0.00	$0	$0	$0
Marsh & Wetlands	0	0.00	$0	$0	$0
Large Rivers	0	0.00	$0	$0	$0
Offshore	36,060	1.75	$622,731	$1,961,749	$2,584,479
Contingency					$219,213
Totals	36,060		$622,731	$1,961,749	$2,803,692
Pipe Size	36.00				
Number of Joints	902				
Selling Price per Foot	$77.75				

Note: Above are "Selling Prices" (includes OH & Profit) for concrete coating operations only, lay price is not included.

Summary Sheet

Detailed Calculations

Exxon Neftegas Ltd — 9-May-02
Sakhalin 1, EPC2 — Greg Lamberson
International Construction Consulting

Input Data	Input Data	US Units	Input Data	Metric Units
Pipe O. D.	**36.00**	**inches**	**914.40**	**MM**
Pipe Wall Thickness	**0.900**	**inches**	**22.86**	**MM**
Protective Coating Thickness	0.019	inches	0.48	mm
Protective Coating Weight per Foot	1.329	lbs./ft.	2.01	kg / mtr
Protective Coating O. D.	36.04	inches	915.37	mm
Pipe Volume Displaced Including Coating	7.08	$ft^3/ft.$	0.64	cm / mtr
Pipe Weight Per Foot	337.37	lbs./ft.	511.17	kg / mtr
Density of Contents	0.00	$lbs./ft^3$	0.00	kg / cm
Pipe Contents Weight Per Foot	0.00	lbs./ft.	0.00	kg / mtr
Pipe & Contents Weight Per Foot	**337.37**	**lbs./ft.**	**511.17**	**kg / mtr**
Mud Specific Gravity (Sink Factor)	**1.15**		**1.15**	
Mud Density	71.76	$lbs./ft^3$	1,208.08	kg / cm
Weight of Concrete in Mud	118.24	$lbs./ft^3$	1,990.57	kg / cm
Weight of Concrete in Air	**190.00**	$lbs./ft^3$	**3,198.65**	**kg / cm**
Negative Buoyancy Required	0.00	lbs./ft.	0.00	kg / mtr
Calculation Results				
Upward Buoyancy	**508.31**	**lbs./ft.**	**770.17**	kg / mtr
Net Buoyancy	170.94	lbs./ft.	259.00	kg / mtr
Weight Concrete/foot of pipe	**274.69**	**lbs./ft.**	**416.20**	kg / mtr
Square of Coating O. D.	1,563.81	$inches^2$	10,086.55	cm^2
Coating O. D. calculated	39.54	inches	100.44	cm
Coating Thickness Calculated	**1.75**	**inches**	**4.45**	cm
Concrete Required				
Pipe length	**36,060.00**	**feet**	**10,991.09**	**mtr**
Concrete density	190.00	$lbs./ft^3$	3,198.65	kg / mtr
Coating thickness used	**1.75**	**inches**	**4.45**	**cm**
Concrete Coated pipe O.D.	39.54	inches	100.43	cm
Bare pipe area	7.08	ft^2	0.64	mtr^2
Concrete Coated pipe area	8.53	ft^2	0.77	mtr^2
Concrete area	1.44	$ft^3/ft.$	0.13	cm / mtr
Concrete area	0.05	yards/foot	0.14	cm / mtr
Concrete weight (concrete)	**274.12**	**lbs./foot**	**415.33**	**kg / mtr**
Total concrete required	**1,926.83**	**yards**	**1,464.39**	**cm**
Total Wire Mesh Needed	104,049	ft^2	9,364.37	mtr^2
Labor Cost per Pound	$0.0630	per #	$0.03	kg
Labor Cost	$622,731		$622,731	
Labor Cost per Foot	$17.27	per foot	$56.64	mtr
Concrete Cost per Cubic Yard	$750	yd^3	$570	cm
Reinforced Steel Cost	$52,024		$52,024	
Concrete Cost	$1,445,119		$1,445,119	
Misc Material Costs	$72,256		$72,256	
Total Material Cost	$1,569,399		$1,569,399	
Total Material Cost / foot	$43.52	per foot	$142.79	mtr
Total Cost / foot	$60.79	per foot	$199.44	mtr
Contingency	$219,213	10%	$219,213	10%
TOTAL COST	**$2,411,343**		**$2,411,343**	

Recent Projects

- China Gas Pipeline Project
- Alaska Gas Pipeline Producers Project
- Chad Development Project, Chad & Cameroon
- Cuiaba Gas Pipeline, Bolivia & Brazil
- Sakhalin 1, Phase 1, EPC 2, Far East Russia
- EGP3A Offshore Pipeline Project, Nigeria
- Angola LNG Project, Angola
- Caspian Sea Pipeline Expansion
- Doseo Pipeline Project
- Chad Development Project
- Alpha Crude Connector Project

China Gas Pipeline Project

- 4,830 Km of 40”, Gas
- 18 Compressor Stations
- Remote Location
- 40 Major River and Canal Crossings
- 300 Km of Congested Construction in Shanghai
- Pipeline Crossing of the Great Wall

Alaska Gas Pipeline Producers Project

- 6,440 Km of 52”, Gas
- 12 Compressor Stations
- NGL Plant
- 5 Major River Crossings
- Remote Location
- Harsh Environment
- Largest Gas Pipeline Project in the World

Chad Development Project

- 1,070 Km of 30”, Crude Oil
- 3 Pump Stations
- Field Facilities and Infrastructure
- Remote Location - Logistically Challenged
- Telecommunications
- World Bank Financed
- Environmentally Challenged
- Multiple Interfaces

Cuiaba Gas Pipeline

- 636 Km of 18”, Gas
- 5 Future Compressor Stations
- 3 Meter Facilities
- 5 Major River Crossings
- Environmentally Sensitive
- Logistically Challenged
- Bolivia-Brazil Border Crossing
- Crossed Worlds Largest Wetland (Pantanal)

Sakhalin 1, Phase 1, EPC 2

- 369 Km of Pipelines (crude, gas injection, and water injection)
- 201 Km 24” Crude Export Pipeline
- Marine Terminal
- Tatar Strait Crossing
- Environmentally Sensitive
- Logistically challenged

EGP3A OFFSHORE PIPELINE PROJECT

- 14 total Km of onshore pipelines, dual 24”- predominately swamps
- 94 total Km of 24”, 20”, 10” offshore pipelines
- Offshore platforms & topsides
- Hook ups
- Shore approach
- SIMOPS integration
- Security challenged

ANGOLA LNG PROJECT

- 1 Onshore LNG process train
- 2 LNG storage tanks
- Marine terminal
- "ConocoPhillips Optimized Cascade Process"
- Gas separation & treating
- Condensate stabilization
- LPG fractionation
- Liquefaction & product storage
- 200 kms of 18", 22", and 24" – worlds highest pressure gas pipelines installed to date

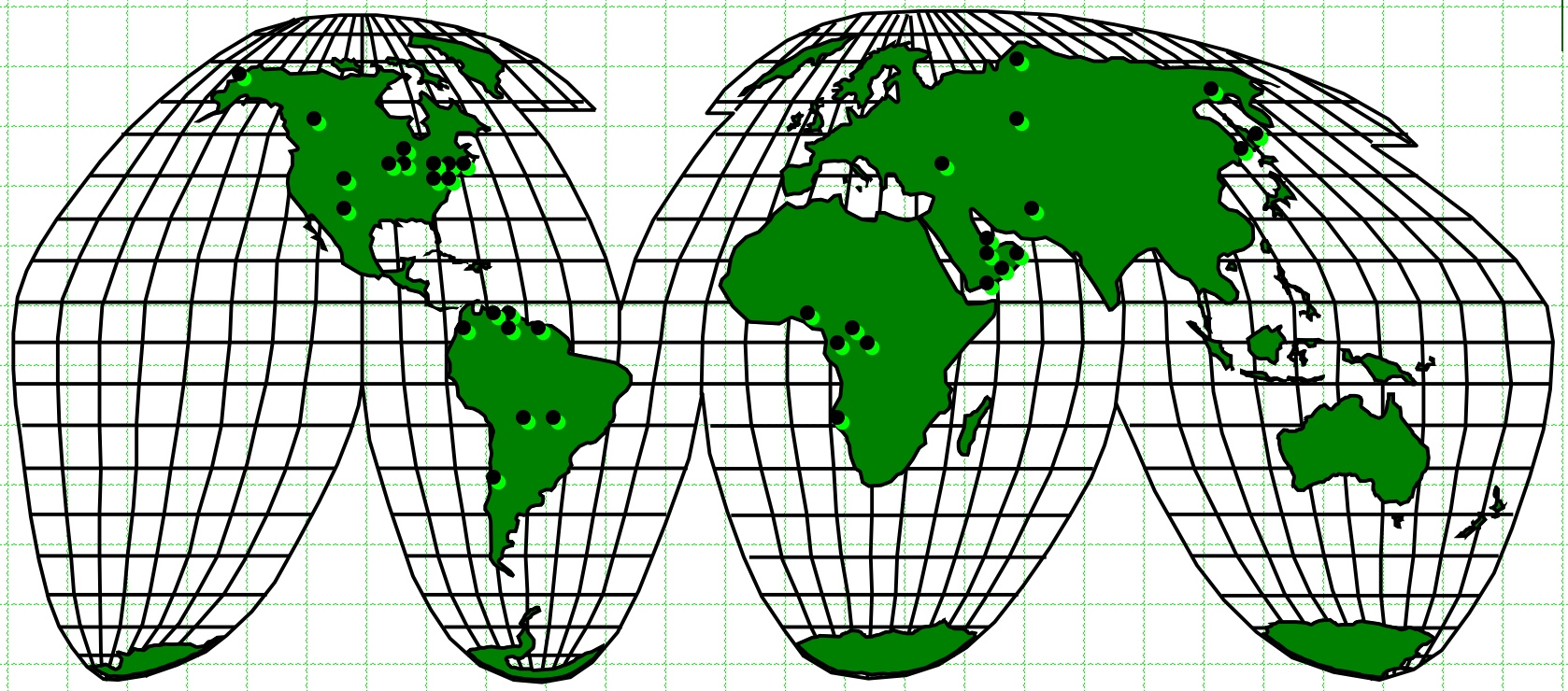
CASPIAN SEA PIPELINE EXPANSION PROJECT

- 6 each 100K M3 Floating Roof Tanks (VRFT)
- Marine terminal expansion and tie-in to offshore pipeline
- Process piping;
- Automated fire protection system;
- Production service support depot;
- Power substations, power supply and equipment room with control room;
- SIMOP's for Commissioning & final tie-ins;

Clients

- AGA Resources
- Alaska Gas Producers Pipeline Team (BP; Phillips; and ExxonMobil)
- Alex Stewart International
- Angola LNG Ltd
- Boardwalk Partners
- Boston Strategies
- Branford Castle
- Caracal Energy
- Chevron
- Chevron Neftegas Ltd
- Chevron Nigeria, Ltd
- Comision de Regulacion de Energia y Gas (CREG)
- Confidential Major Investment Bank
- Constructora CAMSA, CA
- Cumming Company
- Dueltex Energy (Nigeria) Ltd
- ExxonMobil
- Exxon Neftegas Ltd
- Frontier Energy, LLC
- Germer Gertz; LLP
- Glencore E&P
- Goldman-Sachs
- Guidepoint Global Advisors
- Jahind Projects Limited
- K&M Engineering and Consulting, LLC
- Network Oil & Gas Ltd
- Parsons E&C
- Project Management Resources, Inc
- Select Equity Group
- Shell
- Snelson Companies
- Universal Strategic Alliance
- Willbros Engineering
- Willbros International
- Willbros West Africa

International and Domestic Project Locations



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