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Ecopetrol – Petroseismic Services – Sep 2011 – October 2011

Performed a technical audit on the M/V Gulf supplier offshore Peru, including HSE, seismic Sercel Seal 408XL recording system. Spectra Navigation, Reflex Binning system, Sprint Navigation QC and ProMAX 2003. Verification of the offsets and antenna calculations and evaluation of the seismic personnel. Use Testif-I, VisualVoxAT, ITA, SeisPos, P1Tools, Geometis, Omni 10 and Vista software to carry about the technical audit on the vessel. Check the instrument test and the quality of the positioning and read some raw and processed UKOOA files.

Verification of the echo sounders and acoustic positioning on board, recording system Seal 428XL. C-NAV navigation, Multifix 4 and Skyfix.

Saudi Geophysical Consulting Jan 2009- Dec 2010

Technical Manager for seismic projects and also liaison with Saudi Aramco providing manpower from SGC. Prepare bids and mostly office work processing Microtremor, gravity, uphole, geotechnical data for underground water and geotechnical work for foundations. Became member of the Dhahran geophysical society and attended 14 months of seminars and geophysical meetings at Saudi Aramco. Also participate in a technical audit and field QC work in Sudan for GNPOC representing SGC. Supervise a marine 3D for CGG VERITAS in the Persian Gulf with 8 streamers. Services in Iran for NISOC in land 3D, OBC and transition seismic operations.

Craddock Engineering June 2006 – 2008

Quality control supervisor in a large 3-D dessert seismic acquisition operation with Geofizyka Krakow and Zueitina Oil Company. Using Sercel 408XL and SQC-Pro, Nomad 65 vibrators VE432, HYPACK guidance system and DSD Network, OMEGA processing and Omni Workshop software. Areas of Midween-Hakim, Fidda and Zella, NC-74A, NC74B.

Also working in Tripoli offices in 3D design for coming projects and writing technical parameters and tender bids. Also supervise a marine 3D offshore Libya, BLOCK 5D on behalf Zueitina Oil Company for GAZPROM Russia. The vessel towed 6 streamers.

EDCO – OEID ICOFC July 2003 – March 2005

Quality Control Assurance Supervisor providing technical assistance and QC supervision for Land 3-D and Transition Zone Geophysical Surveys. Technical Manager in IT services. 3D data processing. Installation of PC Clusters using LINUX Redhat 7.2-7.3 and OSCAR Cluster management. Supervision and completion of land 3D Kehsht 3D for OEID in Fars Province in IRAN. Land 3d and marine 3D supervision in the Kish island and South of Iran.

Trafalgar Exploration Services Inc 1998-2003

Quality Control Assurance Supervisor providing technical assistance and QC supervision for Land 3-D, OBC, Transition Zone Geophysical Surveys. Technical Manager in IT services. 3D data processing. Installation of PC Clusters using LINUX Redhat 7.2-7.3 and OSCAR Cluster management. Supervise a marine 3D in the Gulf of Mexico for PEMEX through Trafalgar Exploration and RPS Energy joint venture, also a long 2D 14 km streamer for depth target in the Gulf of Mexico. QC navigation Spectra, Reflex and Sprint Navigation QC plus gravity data.

Recent project 2002 supervising a 3D high resolution seismic in Chad North Africa hired to implement and improve data quality . Increased production and implemented HSE standards. During 1998 worked in land vibroseis dessert operations in 6 different crews working for PDO in Oman land and marine 3D seismic operations.

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Freelance Geophysical Consultants Ltd. 1990-1997

2D,3D Acquisition Consultant. Land, Transition, Shallow Water and Marine Operations, including all navigation systems and acoustic positioning for the marine vessels.

Recent Experience 3-D OBC/ dual sensor operations Syntron bottom cable Venezuela Senior QC seismologist responsible for data quality utilizing QC onboard processing, also 4D, 4C for CO2 detection and Distance Separated Simultaneous Slip Sweep. Tools. Land 3-D heliportable Peru 3D Acquisition Consultant. Marketing representative in South America. Various Land and Marine 2D and 3D projects in the USA and South America

Acquisition Consultant. 2D and 3D jungle heliportable and vibroseis operations. Central and South America utilizing SN388 and I/O II recording systems.

Halliburton Geophysical Services 1988-1989

Senior Observer. Assigned to 3-D land Vibroseis and Portable crews.

Geophysical Services, Inc. (GSI) 1987-1988

Assigned to 3D marine operations with dual fiber-optic streamers. Responsible for data project planning, survey setup planning and infill. Complied crew QC reports

Geosource, Inc. 1982-1986

Crew Manager, Shore Manager, and Instrument Manager. Experienced in the use and operation of contractor Binning systems. 3-D survey design tools. Vessel rigging and equipment installation.

Geophysical Services, Inc. 1980-1982

Crew Seismologist, Instrument Engineer, and Party Manager. Assigned to 2D and 3D marine operations. Worldwide

Western Geophysical 1977-1980

Junior Observer, Observer, and Chief Observer. Assigned to marine shallow water, 2D, and land Vibroseis operations .

Schlumberger 1975-1977

Mud Logger, Mineralogist. Assigned to well drilling operations .

EXPERIENCE AND SYSTEMS KNOWLEDGE:

Project Management

Parameter testing, survey planning, safety, and environmental impact.

Back-down and Teleseis applications.

OBC dual Sensor operations

Deep Water 3D Seismic Multi Streamer Operations

Binning systems with dual fiber-optic cables, also dual analogue streamer.

Tracking System STS III.

Gravity and Magnetometry marine/land

Ocean Bottom Cable Operations.

Parameter sweep testing, dynamite, poulter, primacord, heliportable,

3-D transition zone surveys,

Land 3D /4D Seismic

Experience with telemetry cable, quad and sextuple line swaths with octonary roll-on, perpendicular dynamite shot-line, single and double zig zag, slip sweep and vibroseis inline or perpendicular and patterned shot arrays as well as transition and OBC. DS3, DS4 and 4D using 4C for CO2 detection.

Seismic Processing

Parameter testing, Apollo, Omega , FT-1, FT-2, ProMAX ,MicroMAX, Schlumberger Vista 2015

QC systems Census, SeisNav

Pelton ver 6.2

Geotrace Technologies 3D design

MESA Geological Modeling

Oil Pathfinder, Designing field variables in land

Swift Survey Package

Arcview 9.3

Mapinfo 10

Refraction and Uphole software

Mesa 11

Omni Workshop 10

Opendtect

Hampson Russell

Vista 10 Processing

DirectAid

Globe Claritas

GPseismic

ProMAX

Seismic Processing workshop

RadExpro

OpendTEct

Petrel 2009

WinPICS 5.4

Kingdom Suite 8.6

Geoframe 4.2

ITA instrument test analysis

Testif-i

SeisImager and Surfseis

VisualVoxAT

INTViewer

Instrumentation

Sercel 388/388, RAS-24, DFS-VII, MDS16, MDS-18, OYO DFM 480, I/O System One and Two, Seistronix TX-500, TSR II fiber optics, TIGER II, LRS-100, AIRCOM III, OYO MX-160 Syntrak. I/O MSX. La Coste Romberg Model G, Aram Aries, I/O System 4, Sercel 408UL, 408ULX, 428LX, Gi3HD, RAS-24. I/O System 4, Marine SEAL, SCORPION, MSX marine recording system and NESSIE 3. Sercel Seal 408 and 428XL, Firefly, Gunlink 2000, Sercel 508XT, Geospace Geores and GSR, RT2 real time wireless.

Shallow Water OBC dual Sensor operations , Transition Syntron and I/O Bottom cables

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Vibroseis Electronics

VCS-IIIB, VCS-V, Mountain System (QC), Pelton Advance HD , VibraSig. Post Sweep Service (PSS), Pelton Advance III Vib Pro HD, VE416, VE432, VE464, BirdDog and Sandwich Box.

Energy Sources

Vibroseis, dynamite (poulter and primacord), airguns, sleeve exploders, down hole hammer, Canterra, Jackro, Jed drills, (flushers) Augers, Bullrock II & III, Mayhew 500,1000 and Careys. S-wave vibrators, Digiseis and Thumper. Sandwich Box and Vibroscope for vibroseis testing

Navigation

Differential GPS Trimble 4000 DGPS.Argo, Syledis, SPOT, Maxiran, Transit satellite MX-1107, GPS Ashtech XII, TI Navstar 1400, Shoran and Loran, hand-held GPS Magellan, Leica 1200 GPS, Skyfix, Multifix III, MULTifix IV. Sprint Navigation QC. REFLEX binning system, acoustic EchoSouunder, Glonass satellites, DigiRange II acoustic range system, Oyo Geospace Navigator, GPS trimble 4000SSI, DSM 232, Aries GPS radio pods, Furuno satellite compass, Robertson AP9 MK3, ODOM Echotrak MKIII fathometer, SPRINT 3D, Model 7000 streamer velocimeter.

Survey

Theodolites Wild T-0, T-1, T-1000, T-1600; Distomats (EDMs); Psion Organizer data collectors. Thales Z-MAX, Leica 1200, Trimble 5000 satellite receivers.

Geophone Testing Equipment

Geospace G-900, SMT-100, SMT-150, SMT-200-300 and 400, Seistec, LT388, SGT-100 and SGT-200.

Operating Systems and Other Systems

UNIX, Ultrix, Open VMS, Open Windows, Novell, DEC 2020, PDP-11, MicroVAX, MicroMAX, ProMAX, 980B-990B, OS/2, CPM, MS-DOS, MOTIF, OSF1, DX10, VMS, SCO UNIX, X-Windows10 , Solaris, Unix AIX, Linux, Windows 95/98/ME/764, Windows NT 4.0/2000, XP and Windows 7, Office 2010, Linux Redhat 9 all Internet Software, HTML and JavaScript programming and Relational Database software.

TRAINING COURSES:

DFS V Operator's School, Dallas, 1980. Configurable Marine System Operator School,
Marine Firefighting School, College Station,
CMS Maintenance School,
980B & 990B Minicomputers and Assembly Language,
771 Satellite Communication,
CPR Medical,
MK 227 Gyrocompass,
MX 1107 Transit Satellite,
Digital Electronics,
Airgun Controller (TIGER II),
Dbase III Programming Language,
Advance UNIX for Mainframes,
Advance Macros and Programming, Spreadsheets,
Word Perfect 6.0, 1995
Local Area Networks (LAN), Novell 3.1, 1996
All PDO safety training required to work in Oman,1998

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1995 HTML Internet Programming,
1999 Internet Networking
2000 Visual Basic Programming
2000 Routers and Internet Networking with Linux 6.1
2000 Windows NT

Seismic Courses Completed

1996. SeisNav OBC Software, Census 4.4, ProMAX 5.01,
1997. 3D Design, Geotrace Technologies,
1998. SSI SeisNet Real Time Data Capture
1999. Landmark Corporation, ProMAX 3D ver 7.1
1999. SLS, VERIFY-IT
2001. FOCUS 4.3 3D
2001. Oscar, PFVS with PC Clusters installation

AREAS WORKED:

Bolivia, Argentina, Peru, Chile, Uruguay, Panama, Colombia, Venezuela, Trinidad, Aruba, Curacao, Bonaire, Brazil, Ecuador, the Gulf of Mexico, USA, Cotonu, People's Republic of Congo, Cameroon, Mexico, Saudi Arabia, Nigeria, England, Tchad, Korea, Iran ,Oman, Libya, Sudan, India, Japan Malta, Egypt and France.

Terrain worked includes desert, Andes Highlands (4200 meter AMSL), swamp, transition zones, shallow water, deep marine, ocean bottom cable, sand dunes, national trust reserves, deltas, jungle heli-portable, plain jungle, Savannah plains, and environmentally sensitive areas with local natives, OBC, back down, Deep Marine.

LANGUAGES:

English, Spanish, Portuguese, French and some Arabic and Farsi.

AFFILIATIONS:

Active Member of the Society Exploration Geophysicist (SEG).
Vice Chairman Membership of the International Association of Geophysical Contractors (IAGC).
Member of the Geophysical Society of Houston
Member of the Houston Geological Society
Dhahran Geophysical Society – Saudi Aramco

Recent Field Quality Control supervision

Coastlines KSA- Saudi Aramco

December 2014 - Present

Field QC supervision on a 4D 4C project for CO2 monitoring run by Expec Advance Research Department from Saudi Aramco in Uthmaniya Reservoir. The ob is being done using 4C components buried at 70m depth and 4000 traces using Geospace Recording system and Sercel 428XI as a master slave configuration and M26HD Vibrators with a very high fold and using CGG Emphaseis Sweep. Testing repeatability over a base line and 22 monitor lines.

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Saudi Geophysical Consulting- Saudi Aramco 2012 – November 2014

Crew Manager for S70 and S71 high density channels crews using Distance Separated Simultaneous Sweep and distance separated simultaneous slip sweep and 24 vibrators and Time Domain Multiple Access, Sercel 428XI and VE464 vibroseis electronics in wide azimuth surveys with 2400 Fold.

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Zueitina Oil Company

Libya June 2006 – December 2008

Supervision of several 3D seismic surveys using vibroseis as energy source, setting field parameters and acquisition tolerances and processing routines. In charge of a Polish crew 2Z in blocks NC74A, NC74B, Safsaf, 103BC, 103D/T, Ettalla, 103EN-Ext, 103EL-Ext, NC171, LPC3. Using Sercel 428 and 408 with VE438 vibroseis electronics with DSD Network and Hypack guidance system. Field 3D QC processing and 3D volume rendering.

Alphageo India limited

INDIA Dec 7 To June 3 2006

Supervisor in 2 different seismic c crews working in North East India for National India Oil Exploration, using Hampson Russell, OMNI, VISTA 3D, MESA and many other geophysical training software in many disciplines for the benefits of the company. Recruiting and training suitable personnel to be able to work within the seismic crews using I/O System 4.

EDCO Kish International - Iran Dec 2004 TO Sep 2005

Supervising OEOC 3D crew in a semi transition seismic project in Mansuri 3D, near Ahwahz city, one of the largest oil reservoirs in Iran.

SINOPEC- NIOC – Iran May 2004 - Dec 2004

Supervising BGP Chinese crew in Kashan 3D land vibroseis and dynamite, crew start-up and parameter design. OEOC-OEID Paydar 2D land vibroseis crew near the border with Iraq, military area in the border with Iraq. Many mine fields being cleared by a special team before seismic crews get into the safe corridors.

Ecopetrol – Colombia Nov 2003 –April 2004

Supervising Western Geco vessel in a large marine 3D project with 8 streamers in Bahia 3-D, offshore Cartagena. Recording system was I/O MSX, Spectra Navigation,

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Omega 8.0 processing system, SSS air gun system, SENTRY solid streamer, C-Nav, Multifix 3 and Trinav positioning, Reflex real time binning system.

OEID –IRAN June to October 2003

Supervising Chinese Sinopec SGC-201 Crew in KHESHT 3D project with helicopter and dynamite in a mountain terrain , FARS province in IRAN.

KNOC- Korean National Oil Corporation May 3 – July 17 2003

Marine 2D in BLOCK VI-1 East Sea Korea, using solid streamer and SKY Premier positioning system, SYNTRAK recording system.

Cliveden Petroleum Chad North Africa 2001- 2002

Supervising a 3D high resolution seismic crew in Chad North Africa hired to implement and improve data quality . Increased production and organized a HSE program. Thumper as energy sources and RAS-24 acquisition system.

TPAO Turkey Dec 1999 –Nov 2000

Hired to supervise quality control on Chinese operated crews acquiring 2D and 3D land data Especially challenging project as this was the first project the Chinese had operated in Turkey. Also responsible for all equipment startup testing and field audits. Wrote the quality control specifications for TPAO

Petroleos Mexicanos (PEMEX) May-Sep 1999

Land transition with the use of dynamite, air guns and vibroseis as energy source in a complex area bordering the USA. Duties were as field QC and data processing with the use of SLS and VERIFY-IT to check the position of the hydrophones using first break picking. The training of the PEMEX geophysical staff in transition areas was also involved in the daily duties.

Petroleum Development Oman Jan 1998 to Sept. 1998

Field QC seismologist supervising the acquisition of 6 seismic crews using Vibroseis as energy source, P-wave and S-wave vibrators, single, double zig zag and crossline swath 3D designs, slip sweep in desert sensitive areas in the desert of Oman. Rotated through various operation

Empresa Nacional del Petroleo de Chile (ENAP) 1997-1998

On board QC supervision, including Omega 6.2 QC processing, UNAVCHK navigation processing, Real Time Dynamic binning system (FLEX-QC). Also the supervision and logistics of the seismic data acquisition in several 3D marine projects in the Strait of Magellan.

Enron Oil & Gas Venezeula Limited Caracas 1996-1997

Data acquired in the Eastern Gulf of Paria 3D (OBC) Ocean Bottom Cable shot by PGS. Air Gun source, dual sensor Syntrak bottom cable, On board QC processing utilizing Promax with Census for CDP coverage and attribute analysis My duties were, responsible for QC Data processing, close monitoring of the coverage in a congested area , coordinate planning of the infill with client and contractor to optimize coverage to provide necessary offsets.

Also responsible for liaison with government officials such as PDVSA and Minister of Environment. Overall operations, daily report writing and logistics final report compiled for Enron and the Minister of Energy and Mines, Corporacion Venezolana del Petroleo.

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Chevron Overseas Peru Limited 1996

Ucayali Basin, Jungle Peru Land Heliportable, 2D I/O System II with Dynamite, Gravity, Uphole, ProMAX field Processing, Operating in a sensitive area with natives, bats and rabies. My duties were field acquisition consultant responsible for QC processing and general operations.

Mobil Oil Bolivia : Madre de Dios Basin Jungle of Bolivia 1996

Land 2D Heliportable Recording system Sercel 388 , Uphole survey , Using field ProMAX processing system to generate brute stacks. My duties covered the complete operation which also included the field processing, instrument tests, operations and logistics. **Gavity survey using LaCoste Romberg Model G Gravity meters.**

Petrolera Perez Companc : Neuquen and San Jorge Basin Argentina 1995

Vibroseis 3D survey recording 1200 channels, Contractor Western Geophysical, Omega, Specs field processing, Uphole survey . recording system I/O system 11, Mayhews 1000. Responsibilities Quality control of the complete operation :

Costilla Energy Incorporated 1995

3-D Vibroseis - Dynamite, transition zone in Texas. Two thousand channels on the ground GECO/Prakla crew using an I/O system II. Recording system Responsibilities QC supervision of the complete operation.

EXXON, 1995

LAND, MARSH- USA, QC various 3D jobs SWAMP, shothole with conventional survey equipment. Duties included, QC processing and seismic acquisition supervision using air boats and 6x6 buggies.

Education : B.S Mineralogy-Universidad de Chile, 1973
Post Graduate Degree in Computer Sciences- U. de Chile, 1984
Passport Number: P05894706 valid until Nov-23-2020

