

d. To pay a fee of \$350/hr when professional advice and services are rendered, but no travel or in-court testimony is involved.

e. To pay an inconvenience fee of up to \$ ^{ranging from \$500 to \$1000*} if the travel and testimony of the expert witness is canceled or rescheduled within 3 days prior to the expert's scheduled travel day. The witness is expected to reasonably mitigate any financial loss caused by cancellation. This fee is to be reduced to the extent other gainful activities may be undertaken.

4. Payment under this agreement has been approved by the Office of Military Commissions. Payment will be made up to a maximum of \$17500.00 ^{plus travel time}. The balance has been approved and will be paid by the military commission convening authority in this case.

Convening Authority/ Date

Expert Witness/ Date

* see terms & conditions of business. encl. 10.

Supplementary Education and Training

- 95-97 Courtroom skills and report writing training courses from Bond Solon and The Academy of Experts.
- 86-99 Various internal and external training courses in areas such as safety, procurement management, space technology, desert survival, counter terrorism tactics, risk management, etc.
- 86-92 Various military technology and tactics training courses undertaken at **Royal Military College of Science**(RMCS), England. These included explosives technology, ordnance and munitions design, and extensive training in ballistics (internal, intermediate, external, and terminal – including wound ballistics).
- 1982 Gateshead Technical College, Gateshead, Tyne & Wear, United Kingdom.
Non destructive testing (NDT) technology (3 months). Radiographic, ultrasonic, MPI and dye penetrant techniques
- 77-81 4 year engineering apprenticeship with British Steel Corporation. (CGLI qualification)

Employment History

- 2000 – Now Consultant with ARC USA (technical and forensic research & consulting)
- 2000 – 2004 Adjunct Professor at Indiana Institute of Technology, lecturing advanced courses on BA & BSc degree programs.
- 1996 - 2000 Self employed consultant in UK (technical, forensic, and business consulting)

1986-1999 – UK Ministry of Defence, Sevenoaks, Kent TN14 7BP, United Kingdom

- 1995 - 1999 General / Project Manager; Rocketry, Missiles and Explosives Department.
Manager, Legal Services Department (forensic firearms and ballistics service)
- 1992 - 1995 Project Manager; Guns Department.
- 1990 - 1992 Project Manager; Ammunition Department.
- 1986 - 1990 Project Engineer; Smallarms.

Firearms and Ballistics Duties (1986 to 1999)

Guns

- * Trigger mechanism testing & comparison for criminal trials.
- * Safety and function testing for criminal trials.
- * Accuracy and consistency testing for criminal trials.
- * Produce gun function videos for criminal trials.
- * Production of shooting incident reconstruction calculations and diagrams for criminal trials.
- * Acted as an expert consultant/witness in over 200 legal cases between 1995 and 1999.
- * New gun and component design.
- * Firing trials design, instrumentation specification, trials execution & supervision, plus subsequent microscopic analysis and NDE evaluation of components, data analysis, and report production..
- * Foreign weapon assessment, including vehicular platform where appropriate – reverse engineering, materials analysis, microscopic analysis and comparison to NATO equivalents. Performance assessment (inc firing trials design, execution, data analysis, and reporting). Final assessment reports distributed to military intelligence agencies in many countries.

- * Identification and rectification of production, material, and performance problems relating to in-service guns.
- * Provision of technical advice and reports to UK Government, Commonwealth nations, NATO alliance countries etc.
- * Technical input to answers given in response to 'master questions' asked in UK Parliament.
- * Application of advanced materials in gun design.
- * Gun and component design optimisation from a reliability perspective – feeding, ignition, extraction, ejection.
- * Gun and component design optimisation from a safety and durability perspective – drop, knock, and vibration testing.
- * Gun design optimisation from an accuracy and consistency perspective – sighting and grouping.
- * Managed research program on gun barrel wear and erosion.
- * Blast overpressure analysis and its effects on personnel. Developed computer software to accurately analyse blast overpressure trial results and predict maximum human exposure results under various operating conditions.
- * Microscopic examination of fired ammunition components to determine weapon design effectiveness and quality of manufacture – extractor and ejector operation.
- * Selection of most appropriate materials and processes to optimise gun performance (polymers, polymer composites, metals, metal matrix composites, mineral composites, heat treatment techniques etc).
- * Microscopic comparison and analysis of failed gun components.

Ammunition Duties (1986 to 1999)

Research, assessment, design & development of ammunition components and complete rounds in calibers ranging from smallarms through to 120mm tank, and 155mm artillery. Provision of forensic ballistics service to the UK criminal justice system, and civil courts. The work included:

- * Ammunition testing and/or disassembly and evaluation for criminal trials.
- * Calculation of projectile trajectories and shooter location determination for criminal trials.
- * Identification of entry, exit, re-entry, and contact wounds for criminal trials involving firearms.
- * Consult on incapacitation effects of firearms wounds for criminal trials.
- * Distance determinations for criminal trials involving firearms (including shotguns)
- * Produce ammunition terminal effects videos for criminal trials.
- * Microscopic comparison of fired ammunition components (cartridge cases and projectiles) for criminal trials.
- * Production of shooting incident reconstruction calculations and diagrams for criminal trials.
- * Distance determinations based upon chemical testing for gunshot residues (GSR)
- * Acted as an expert consultant/witness in over 200 legal cases between 1995 and 1999.
- * New ammunition design.
- * Firing trials design, instrumentation specification, trials execution & supervision, plus subsequent microscopic analysis of components, data analysis, and report production..
- * Assessment of potential service ammunition to assure optimum price-performance compromise during the government procurement process.
- * Foreign ammunition assessment – reverse engineering, materials analysis, microscopic analysis and comparison to NATO equivalents. Performance assessment (inc firing trials design, execution, data analysis, and reporting). Final assessment reports distributed to military intelligence agencies in many countries.

- * Identification and rectification of production, material, and performance problems relating to in-service ammunition.
- * Provision of technical advice and reports to UK Government, Commonwealth nations, NATO alliance countries etc.
- * Technical input to answers given in response to 'master questions' asked in UK Parliament.
- * Developing novel concept ammunition to the working prototype stage.
- * Application of advanced materials in ammunition design.
- * Ammunition design optimisation from an internal ballistics perspective – burn rate, pressure-time function, angular & linear acceleration calculations, barrel wear and erosion factors etc.
- * Ammunition design optimisation from an intermediate and external ballistics perspective – lift, drag, trajectory, influence of climatic conditions on trajectory, transonic effects, temperature rise effects due to stagnation. Helped develop external ballistics modelling software.
- * Ammunition design optimisation from a terminal ballistics perspective – ricochet, armor penetration, projectile metallurgy etc.
- * Ammunition design optimisation from a safety and durability perspective – drop, knock, and vibration testing.
- * Blast overpressure analysis and its effects on personnel. Developed computer software to accurately analyse blast overpressure trial results and predict maximum human exposure results under various operating conditions.
- * Microscopic examination of fired ammunition components to determine weapon design effectiveness and quality of manufacture.
- * Selection of appropriate propellants and explosives.
- * R&D of novel projectiles for the electromagnetic rail gun program (part of the 'Star Wars' project)
- * Research and provision of advice on the safety and adverse effects of aging on gun propellants. Secretary of the UK energetic materials safety, compatibility, and aging committees. Published research paper on NDE techniques for use on munitions.
- * Selection of most appropriate materials to optimise ammunition performance (polymers, polymer composites, metals, metal matrix composites, mineral composites etc)
- * Ammunition terminal performance assessment and optimisation (both hard and soft target considerations). Including optimising wound ballistics, and the review and collation of wounding trials data relating to representative animals.

Partial Listing of Research Papers (87-99)

RARDE Memorandum 20/87, Title classified, August 1987.
 RARDE Memorandum 5/91, Title classified, 1991.
 RARDE Memorandum 6/91, Title classified, 1991.
 RARDE Memorandum 11/91, Title classified, 1992.
 RARDE Memorandum 12/91, Title classified, 1992.
 RARDE Memorandum 18/91, Title classified, 1992.
 RARDE Memorandum 10/92, Title classified, 1992.
 DRA/WSS/W6/CR9334, Title classified, 1993.
 DRA/DWS/WX6/TR9478, Title classified, 1994.
 DRA/WSS/WX6/CR3593, Title classified, 1994.
 DRA/DWS/WX6/CR94234, Title classified, 1994.
 DRA/DWS/WX6/CR94332, Title classified, 1995.
 DRA/DWS/WX6/CR94640, Title classified, 1995.
 DRA/DWS/WX6/TR94638, Title classified, 1995.

DRA/DWS/WX4/CR96842, Title classified, 1996.

DRA/DWS/WX4/CR97129, Title classified, 1997.

DRA/DWS/WX4/CR7491, Title classified, 1997.

DRA/DWS/WX4/CRxxxx, Title classified, 1999.

Apr 99 A Review of Non-Destructive Evaluation Techniques Suitable for Solid Propellant Rocket Motors. UK Government Publication. Author; Nixon JR.

Sept 99 A Review of Non-Destructive Evaluation Techniques Suitable for Solid Propellant Rocket Motors. UK Government Publication. Author; Nixon JR

Individuals with appropriate security clearances may obtain a full listing of titles, and copies, from: Defence Research Information Center, Kentigern House, 65 Brown Street, Glasgow G2 8EX, United Kingdom.

Patents

GB 9214637.2 Plastic Tail Fin Unit

Describes new fin materials (and related manufacturing process) which improve long rod tank penetrator terminal performance, and reduce production costs. 9 July 1992

GB 9216295.7 Long Range Artillery Shell

Describes several 155mm artillery shell design concepts capable of extending maximum range to 60km. 31 July 1992.

Also creator of numerous inventions that were not patented due to security restrictions.

Conference Presentations and Training Seminars Delivered

Nov 01 Training seminar in forensic firearms, ballistics, & wound ballistics at University of Louisville Law School.

Accredited for CLE by Kentucky Bar Association.

May 02 Lectured in forensic firearms and ballistics at Ohio University Forensic Science School.

Apr 03 Presented a one day training seminar in forensic firearms, ballistics, & wound ballistics to 60+ Chicago lawyers and investigators.

Sep 03 Training seminar in forensic firearms, ballistics, & wound ballistics in Indianapolis.

Accredited for CLE by Indiana Commission on Legal Education.

Oct 03 Training seminar in forensic firearms & ballistics at DePaul University, Chicago.

Dec 03 Training seminar in forensic firearms, ballistics, & wound ballistics in Indianapolis.

Accredited for CLE by Indiana Commission on Legal Education.

Feb 04 Training seminar in forensic firearms, ballistics, & wound ballistics in Indianapolis.

Accredited for CLE by Indiana Commission on Legal Education.

Mar 04 NLADA Life in the Balance conference, Memphis Tennessee. Two sessions presented on firearms and ballistics technology (14 & 15 March 04). Accredited for CLE in most States that have such a requirement.

Apr 04 Keynote Speaker at Emergency Nurses Association Regional Forensic Science Conference, Memphis TN. Accredited for CLE by the Emergency Nurses Association.

Jan 05 Firearms & Ballistics for Law Enforcement, Columbia City Sheriff's Department, Indiana.

- Mar 05 Presented lectures on Firearms, ballistics, and explosives at the Federal Investigator Annual Conference, Hilton Hotel, Chicago, IL.
- Oct 05 Training seminar on firearms, ballistics, and wound ballistics at Rochester Institute of Technology NY.
- Sept 06 Lectures in firearms and ballistics at NDIA Conference in Washington DC.
- Feb 07 Accreditation v TQM, Do We Need Either, Do We Need Both ? Paper Presented at AAFS Annual Meeting, San Antonio, TX.
- Apr 07 Forensic Firearms & Ballistics. Training Session at the 70th Annual Convention of the Indiana Society of Professional Engineers, 26 to 28 April 2007.
- Jun 07 Firearms & Ballistics training. Maryland Public Defender Annual Training Seminar, 14 to 16 June 2007, Potomac, MD.
- Feb 08 Guru; Demon; Illusionist ? Is it Time for an Overhaul of Expert Qualification Procedures ? Paper Presented jointly with Maryland Innocence Project at AAFS Annual Meeting, Washington, DC.
- Feb 08 Impulsive Legislation. Adverse Consequences of Excluding Appropriately Qualified Experts from the Lawmaking Process. Paper Presented at AAFS Annual Meeting, Washington, DC.
- Feb 08 Rush to Judgment ! Do Some Forensic Scientists Jump to Conclusions, Thereby Facilitating Injustice ? Paper Presented at AAFS Annual Meeting, Washington, DC.

Publications (partial listing)

Evaluation of mono-molecular surface modifiers applied to bullets and rifle barrels, and their influence on drag, velocity, consistency, accuracy, and copper fouling. Varmint Hunter Magazine, April 1999.

Contributor to article on 32 ACP caliber suitability for self defence. American Handgunner 2002 Tactical Annual.

Major contributor to Beltway Sniper article authored by Janet Rae-Dupree, US News & World Report, October 2002.

Major contributor (including microscope photography) to Newsweek Special Report – 'The Sick World of the Snipers, The Inside Story of an Epic Manhunt. Newsweek, November 4, 2002.

Major contributor to article on 'ballistic fingerprinting' by Kyle Orland, Suburban Newslite (a publication of the University of Maryland) 2002.

Courting the Judiciary - Forensic Engineering, and the Role of the PE in Litigation, Indiana Professional Engineer, Volume 69 No5, September / October 2006, pp7-10.

An Overview of Forensic Firearms Engineering, Indiana Professional Engineer, Volume 69 No 6, November / December 2006, pp14-16.

Forensic Firearms Engineering - Blame Apportionment - Products v Operators, Indiana Professional Engineer, Volume 70 No 1, January / February 2007, pp13-17.

Forensic Firearms Engineering - Toolmark Analysis; Linking Cartridge Cases and Bullets to Individual Firearms. Indiana Professional Engineer, Volume 70 No 2, March / April 2007, pp13-16.

Forensic Firearms Engineering - Terminal Effects; The Consequences of Being on the Wrong End of a Firearm. Indiana Professional Engineer, Volume 70 No 3, May / June 2007, pp11-15.

Forensic Firearms Engineering - Shooting Incident Scene Reconstruction: Part 1 - Bullet Impact Area Identification and Interpretation. Indiana Professional Engineer, Volume 70 No 4, July / August 2007, pp13-16.

Forensic Firearms Engineering - Shooting Incident Scene Reconstruction: Part 2 - Bullet Hole ID and Distance Determinations. Indiana Professional Engineer, Volume 70 No 5, Sept / Oct 2007, pp13-14.

Forensic Firearms Engineering - Shooting Incident Scene Reconstruction: Part 3 - Ejection Pattern Testing & Analysis. Indiana Professional Engineer, Volume 71 No 2, Mar / Apr 2008, pp12-15.

Visits to Manufacturing, Test, and Research Facilities

2006 Visit to Rock River Arms Manufacturing, Illinois.
 2006 Visit to American Ammunition, Florida.
 2002 Visit to Military Police Combat Development Unit, Fort Leonard Wood, MO.
 2002 Visit to Special Operations Unit of the Police & Fire Departments, Kansas City, Kansas.
 2002 Visit to HP White ballistic laboratories, Maryland, USA.
 00 to 03 Numerous visits to CBP ballistic protection research facility, Indiana USA.
 1999 Visit to Royal Armouries smallarms museum, Leeds, England.
 1990 Visit to Royal Ordnance explosives and munitions manufacturing and research facility.
 1988 Visit the ICI gun propellants manufacturing facility at Powfoot, Scotland.
 1988 Visit to the BMARC (Oerlikon) ammunition and gun manufacturing facilities, England.
 1988 Several visits to Royal Ordnance Smallarms Facility, Enfield, England.
 1987 Several visits to the ICI propellant and explosives research HQ, Ardeer, Scotland.
 1987 Visit Royal Ordnance smallarms ammunition manufacturing facility, England.
 1987 Visit Honeywell ammunition manufacturing facility, England.
 95 to 99 Several visits to Metropolitan police Forensic Science lab, London, England.
 95 to 99 Several visits to Forensic Science Service lab, Huntington, England.
 90 to 95 Several visits to Royal Ordnance gun design & manufacturing HQ, Nottingham, England.
 89 to 99 Numerous visits to Royal Ordnance rocket test facility, Westcott, England.
 89 to 99 Numerous visits to Royal Ordnance research HQ at Summerfield, England.
 89 to 91 Numerous visits to Royal Explosives Establishment, Waltham Abbey, England.
 86 to 90 Several visits to Royal Ordnance ammunition manufacturing facility, Bertley, England.
 86 to 92 Numerous visits to ICM, West Malling, England (smallarms defense contractor)
 86 to 99 Numerous visits to Eskmeals gun and rocket test facility, Cumbria, England.
 86 to 99 Numerous visits to Royal Military Vehicles Research Establishment, Chertsey, England.
 86 to 99 Numerous visits to Pendine smallarms, rocket, and bomb test facility, Dyfed, Wales.
 86 to 99 Numerous visits to Shoeburyness gun and bomb test facility, Essex, England.
 86 to 99 Numerous visits to Porton Down Chemical & Biological Defence Facility, England.
 86 to 99 Numerous visits to Royal Aircraft Establishment, Farnborough, Hampshire, England.
 86 to 99 Numerous visits to the Atomic Weapons Establishment, Aldermaston, England.
 86 to 99 Numerous visits to Military Vehicles Research & Development Establishment, England.

Continuing Education, Training, & Development

Nov 01 Conference at University of Louisville Law School.
 Sept 03 Death Penalty conference, Indianapolis.
 Oct 03 Conference; Ballistics; from the Shop Floor to the Courtroom, DePaul University, Chicago.
 Dec 03 Forensic Science training seminar, Indianapolis.
 Feb 04 Forensic Science training seminar, Indianapolis.
 Sept 04 Forensic Science for Investigators, Indianapolis.
 Apr 06 Forensic Science Symposium, Indianapolis.
 Apr 06 ISPE Annual Conference, Indianapolis IN.
 May 06 Indiana Society of Professional Engineers Annual Conference, Indianapolis.
 May 06 Advanced Defensive Pistol Course, Columbia City, Indiana.
 Sept 06 SIG Factory Certified Armorer Course, LaPorte, Indiana.
 Oct 06 Forensic Investigation, Dr Henry C Lee, Carmel, Indiana.
 Feb 07 AAFS Annual Meeting, San Antonio, TX.
 Apr 07 ISPE Annual Conference, Indianapolis IN.
 Jul 07 NIJ Annual Conference, Arlington VA.
 Jul 07 National Academy of Forensic Engineers Annual Conference, Denver CO.
 Feb 08 AAFS Annual Meeting, Washington, DC.

Other Achievements & Activities

- * Court qualified expert in FL, IL, IN, KS, KY, MD, NY, OH & US Federal Court
- * Consulted on, and delivered reports, on firearms and ballistics cases in many other States.
- * One of the youngest people to be elected to Fellowship of the Institution of Mechanical Engineers.
- * Founder Member of the Expert Witness Institute.
- * Secretary to UK explosives safety, performance, and compatibility committees (95-98).
- * Certified Range Safety Officer.
- * Certified pistol and personal protection instructor.
- * Life Member of the National Rifle Association.

Member of the Following Institution of Mechanical Engineers Special Interest Groups

Aerospace. Materials. Automotive. Management.

Member of the Following American Society of Mechanical Engineers Special Interest Groups

Aerospace. Materials. Automotive.

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Department of Defense
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1099 14th Street
Washington, DC 20005

John R Nixon
PO Box 66
Bippus
IN 46713

Tel: 1.202.761.0133 x107

Fax: 1.202.761.0510

6 June 2008

Potential Investigation of Fatal Incident

I write to confirm my qualifications, training, and experience in the following technology areas:

- Blast overpressure analysis
- Smallarms
- Hand grenades
- Bombs
- Explosives
- IEDs

I am a professional mechanical engineer who worked for the UK Ministry of Defense from 1986 until 1989. During that time I received additional technical training at the Royal Military College of Science (RMCS). This training included gun and ammunition design, ballistics (inc computer modelling) explosives, and explosive device design and construction (inc IEDs).

During my time with the government I worked in a number of technology areas, including smallarms, tank and artillery ammunition, missile systems and explosives. My work was varied and included research, design, development, mid-life improvement programs, and assessment of foreign weapons systems utilizing reverse engineering and firing trial techniques. I was secretary of the UK committees on explosives safety and compatibility. I updated the manual system of blast overpressure analysis and human exposure limit calculation to a computer based system. This system was used to produce blast overpressure exposure limits for a large number of gun and munitions systems, and the information generated was circulated within the NATO Alliance, inc the US.

I moved to the US in March 2000, and have been a US citizen since Sept 2005. Since moving to the US I have continued to work as a weapons systems consultant. My client base includes defense contractors, insurance companies, private attorneys, law enforcement, federal and state governments. I have testified as an expert witness on firearms, ballistics, wound ballistics and explosives in numerous state and federal courts across the US. I have provided training in firearms, ballistics, and explosives to many US organizations.

Sincerely
John Nixon

CRIMINAL INVESTIGATION TASK FORCE (CITF)
REPORT OF INVESTIGATIVE ACTIVITY

1. DATE OF INVESTIGATIVE ACTIVITY
07 Dec 05

2. PLACE
Fort Bragg, NC



4. REMARKS

[REDACTED]

Department of Defense Criminal Investigation

[REDACTED]

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Dimensions Post Strike

Enclosure 5
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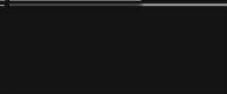
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CRIMINAL INVESTIGATION TASK FORCE (CITF)
REPORT OF INVESTIGATIVE ACTIVITY

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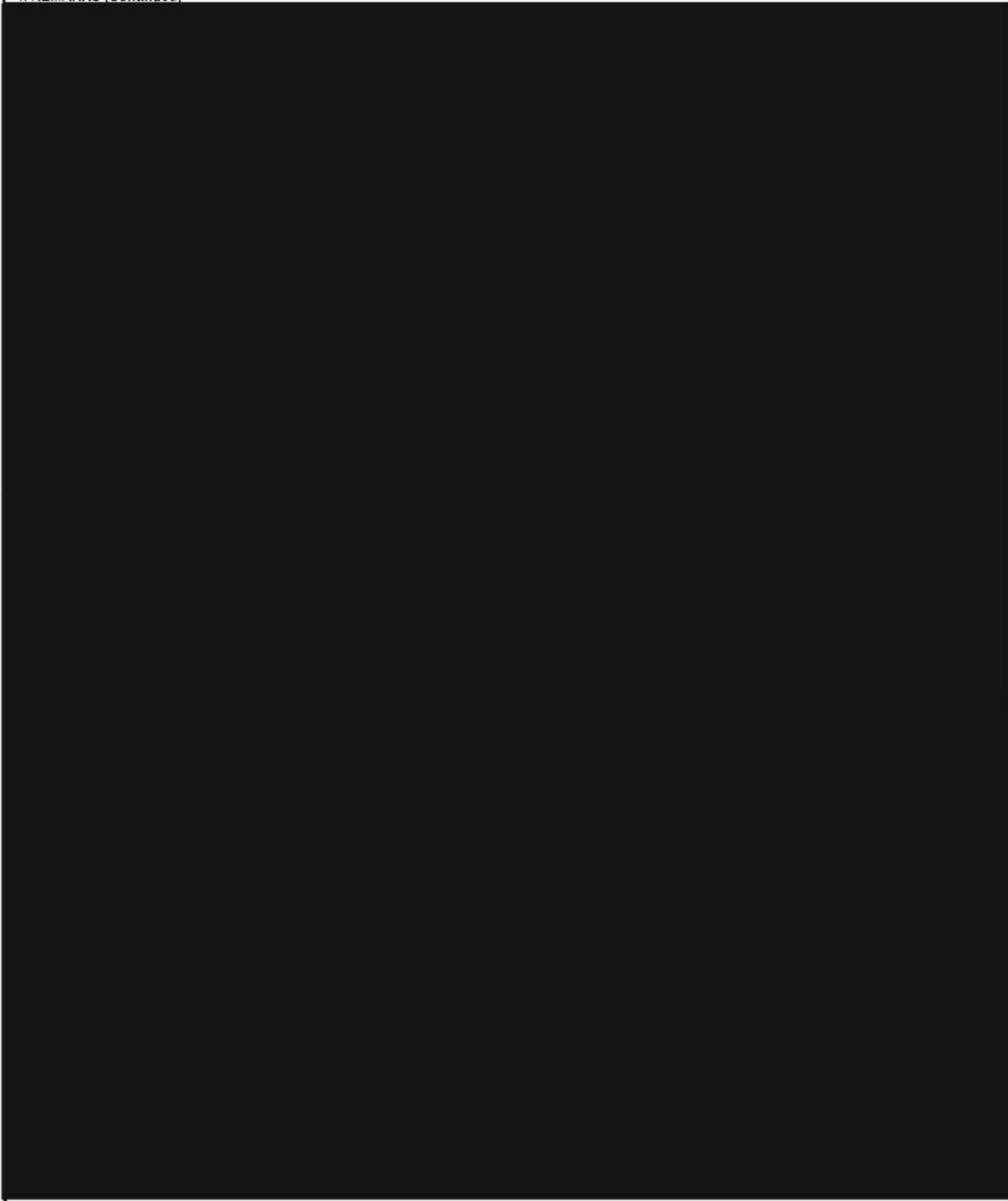
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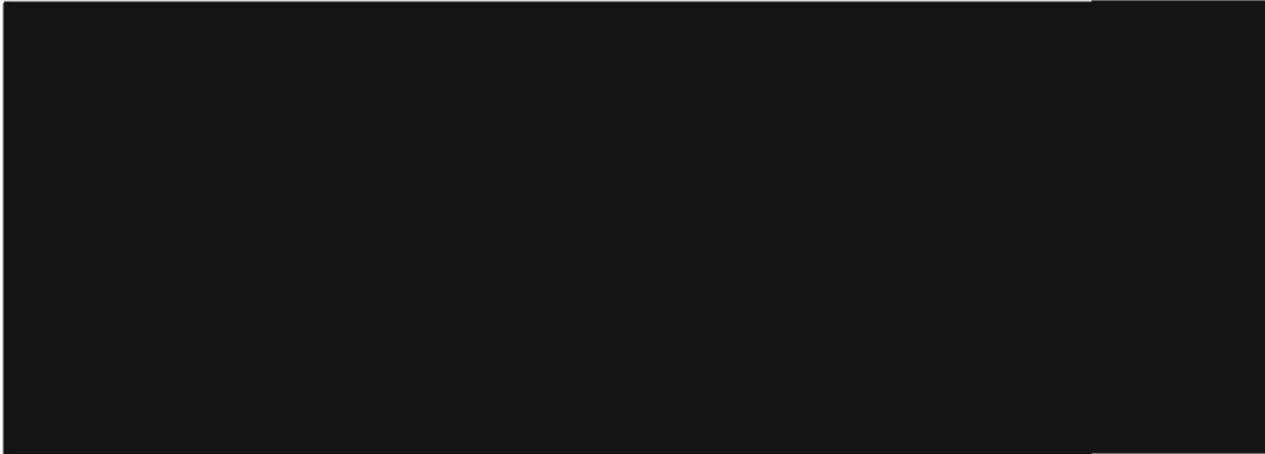
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