

YOU SUFFERED A WELL FAILURE: NOW WHAT? A PRIMER FOR GENERAL COUNSELS AND LITIGATORS

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THE DRILLING, FRACKING, AND COMPLETION OF OIL and gas wells is a risky venture often involving operations several thousand feet below ground, high pressures, high temperatures, and potentially corrosive chemicals and formation fluids. These conditions contribute to a heightened opportunity for human error and equipment failure. In the immediate aftermath of a downhole failure, chaos and uncertainty often reign. Companies are well served to plan for contingencies that arise during the critical hours immediately following a well failure and should be prepared to: secure the well to prevent or limit personal injury, environmental impacts, and property damage (including formation damage); provide timely notice to first responders, regulatory agencies, insurance companies and, if necessary, surrounding communities that could be placed at risk; if possible, retrieve and preserve key evidence including failed equipment; and compile data and other information (including witness statements) necessary to investigate and evaluate the cause of the failure. While many of these factors are technical or operational in nature, each potentially impacts the effective and successful prosecution or defense of well failure claims and any resulting damages.

Notifying Government Agencies and the Affected Public Well failures, especially blowouts, typically require a quick response and, depending on the nature of the failure, immediate notification of the public and appropriate state, federal or local authorities.

A. Alerting the Public and First Responders.

Obviously, the well operator should consider immediately alerting first responders in the event of a blowout, a release of toxic gases, threatened or actual contamination of surface water or groundwater, or other dangerous conditions. Emergency personnel working in coordination with the well operator should evaluate whether to notify or evacuate the affected public. In some instances, public notification is required by law.

One example of public notification required under Texas law calls for operators to develop a contingency plan to

protect the public from releases of potentially harmful or deadly levels of hydrogen sulfide (“H₂S” or “acid gas”). There are numerous oil and gas fields in Texas that contain H₂S including portions of the prolific Permian Basin, Smackover and Eagle Ford formations.¹ Railroad Commission (“RRC”) Rule 36 (entitled “Oil, Gas, or Geothermal Resource Operation in Hydrogen Sulfide Areas”) regulates oil and gas operations that are expected to encounter H₂S in concentrations of 100 ppm or more.² In some instances, Rule 36 requires oil and gas operators to prepare a contingency plan in advance of conducting operations. Contingency plans require notification to first responders, the applicable RRC district office, and to residences and businesses within a certain radius of exposure (“ROE”). The plan also lays out procedures for traffic control into and out of an impacted area immediately following a release event, and for the safety and possible evacuation of workers, businesses and residences that could be exposed in the event of a release.³ Rule 36 also requires the operator to implement certain aspects of the plan before initiating operations in H₂S areas. These include training workers and educating communities within the ROE about the risks associated with H₂S exposure and about plan specifics.

B. Agency Notification and Reporting.

Notification and reporting releases of hydrocarbons, formation water, and other fluids or wastes associated with oil and gas operations including well failures and blowouts can be required under state and federal law. While beyond the scope of this article, it should be noted that several federal statutes (and regulations implementing them) may require notice in the event of a release including the Clean Water Act and Oil Pollution Act.⁴ At the state level, the RRC and Texas Commission on Environmental Quality (“TCEQ”) have adopted a Memorandum of Understanding (“MOU”) which sets out the division of responsibility where the agencies’ respective jurisdiction intersect or overlap, and specifically addresses emergency and spill response.⁵

RRC rules require immediate notification of releases associated with oil and gas exploration, development, and production operations, including some transportation related

activities (e.g. pipeline releases of oil, gas or natural gas liquids and arguably related substances such as produced water). RRC Rule 20 (entitled "Notification of Fire Breaks, Leaks, or Blow-outs") requires "immediate notice of a fire, leak, spill, or break to the appropriate commission district office by telephone."⁶ After providing "immediate notice" to the district office, the operator is required to follow-up by submitting a "letter giving the full description of the event, and it shall include the volume of crude oil, gas, geothermal resources, other well liquids, or associated products lost."⁷ The report required by the rule is only necessary for oil losses that exceed five barrels in the aggregate, and is silent as to condensate and natural gas releases. The notification requirement is not so limited. Additionally, RRC Rule 91 (entitled "Cleanup of Soil Contaminated by Crude Oil Spill") and applicable guidance provides more detail regarding condensate release reporting and requires immediate reporting for condensate releases in excess of five (5) barrels and for any amount if the condensate is released to "sensitive areas" which are defined by the presence of certain factors including the release's proximity to groundwater, surface water bodies, natural wildlife refuges or parks, and commercial and residential areas.⁸ All spills of condensate into water require immediate notification to the Commission.⁹

Generally speaking, TCEQ rules also require notification of refined product (downstream) releases. Under the MOU, TCEQ has "jurisdiction over certain inland oil spills, all hazardous-substance spills, and spills of other substances that may cause pollution."¹⁰ TCEQ notification requirements attach to a discharge of "oil, petroleum product, used oil, hazardous substances, industrial solid waste, or other substances into the environment in a quantity equal to or greater than the reportable quantity listed in 30 Tex. Admin. Code § 327.4 of this title (relating to Reportable Quantities) in any 24-hour period."¹¹ The responsible party must notify TCEQ within 24 hours of discovering the discharge and must disclose, to the extent known, the information under 30 Tex. Admin. Code § 327.3(d). For air emission releases, look to TCEQ Rule 101.201 for emissions event reporting and notification requirements.¹² Similarly, notification must be within 24 hours after discovery of a reportable emissions event.

The Collection, Segregation and Preservation of Key Evidence

Once the well is secure, the timely collection, segregation, and preservation of information, equipment and data related

to a well failure is extremely important for the post-failure investigation, filing claims, and the ultimate admissibility of key evidence at trial.

A. Post-Failure Investigation

Recovery and preservation of failed equipment, photographs, videos, well records, third-party subcontractor records (including invoices and bills of lading), employee records and notes, documentation from suppliers and manufacturers, and witness statements¹³ are crucial initial steps in a post-failure investigation and in preparing to prosecute or defend subsequent litigation. Note that witness statements are generally discoverable whereas notes of an attorney's discussion with a witness are typically protected by the work-product privilege. Thus, the decision whether to take

a formal witness statement might be dictated by whether the information to be obtained is favorable or unfavorable. Documenting how the failed equipment or defective products arrived at the well (e.g. through bills of lading, invoices,

dispatch sheets, delivery receipts, loading authorizations, etc.) becomes important in determining the relevant parties. It is best to collect this information soon after the failure or event when memories are fresh. The failed equipment and related materials need to be properly preserved to avoid claims of spoliation or destruction of evidence.

While the defense or prosecution of claims can be made far easier if failed equipment or defective products are retrieved and preserved, it is not uncommon for such products to be destroyed during the failure event (e.g. a product destroyed during an explosion or fire). In some instances, the failed product may not be destroyed, but nevertheless cannot be recovered (e.g. a stuck tool or casing that is cemented in the well). There are a number of diagnostic tools that can assist with investigating the cause of mechanical failure when the product is destroyed or unrecoverable. Different experts or consultants may place varying degrees of confidence in certain diagnostic tools depending on their specific expertise, past experiences, or the nature of the failure. For instance, some experts may prefer downhole video when analyzing parted casing, whereas others may prefer the data generated by caliper logs. To ensure that the preferred diagnostic tools are deployed and critical records and data compiled, it is important to assemble the necessary in-house and outside technical expertise to conduct the post-failure investigation. These individuals ultimately may be fact witnesses or testifying experts and, therefore, the attorney should alert

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these potential witnesses that their notes, communications, analyses, and conclusions are likely discoverable.

B. Storing and Segregating Failed Equipment or Defective Products.

In the event failed equipment (e.g. casing or other pipe) or possibly defective products (e.g. cement, chemicals) can be recovered, it is extremely important for evidentiary reasons to store and segregate those products so that they are not commingled with other products of a similar nature. For example, it is not uncommon for pipe used in a single well to have been supplied or manufactured by different companies. In such instances, the operator should avoid commingling pipe sourced from different suppliers or manufacturers. Failure to do so can create proof problems at trial. If necessary, material storage should be at a location that protects it from the weather, heat, humidity, or other conditions that might adversely affect the material or its evidentiary value.

C. Testing.

The testing of failed equipment or defective products is a key step in the failure investigation, evaluation of potential causes of action, and for identifying responsible parties. The lab or engineering firm selected for testing the retrieved material must be first interviewed to determine if they have conflicts or bias. The operator should provide written instructions to preserve and not destroy or discard any material before, during or after testing without prior written approval. The well operator should request that the lab develop a testing protocol. A protocol is especially important if any of the proposed testing is destructive. To ensure that the proposed testing comports with industry standards, consider having the protocol reviewed by a consulting-only expert protected by the attorney work product privilege. Consider also sharing the protocol with potentially responsible parties and inviting them to witness the testing so that they are presented with an opportunity to critique the protocol and witness the testing. This may temper after-the-fact criticism of the testing—especially if the critiquing party failed to avail themselves of the opportunity to comment on the protocol or witness the testing. Failure to share the protocol and seek comments from potentially responsible parties or failure to allow those parties to witness the testing exposes the party conducting the testing to claims of manipulating evidence or spoliation.

D. Chain of Custody.

Documenting the handling, transportation, testing, and storage of key evidence is crucial to establishing the chain of custody. Records tracking the retrieval of evidence from the well, transportation to testing facilities, the testing itself,

transportation to storage facilities, and the conditions of storage, must be created and retained. These might include bills of lading, invoices, photographs, and affidavits from all individuals that handle, transport, test, or store key evidence.

The Measure of Damages

A. Damages are Real Property Damages.

A claim for wellbore damage is a claim for damage to real property.¹⁴ Damage to the formation is likewise damage to an interest in real property.¹⁵ The types of damages associated with a well failure vary, but in general can include the costs to control the failed well, costs to investigate and evaluate the failure, costs to repair, costs to drill a replacement well, and the reduction in market value of the failed well.¹⁶ The exact damage model that applies will depend on the specific facts of the failure.

B. Damage Calculations.

Texas courts have developed specific damage calculations applicable to oil and gas well failures. In *Dresser Indus. v. Page Petroleum, Inc.*, the Texas Supreme Court articulated the measure of damages as being the lesser of: 1) the cost of drilling a replacement well, including expenditures for remedial work less salvage, or 2) the cash fair market value of the original well prior to the damage.¹⁷ In *Dresser*, the plaintiff was forced to plug and abandon a well after the defendant's equipment was lost in the hole despite attempts to retrieve the materials. The plaintiff was ultimately forced to drill a new well. The combined cost of the replacement well and cost of the remedial work to attempt to save the well was more than the market value of the well before the damage. Consequently, the plaintiff was awarded the fair market value of the well before the damage. Other Texas cases apply or discuss similar damage models.¹⁸ If repairing the well is possible, then the damage model is the repair cost.¹⁹ With the modern drilling and completion practices associated with horizontal wells with multiple fracture stimulation stages, application of the appropriate damage model becomes more technical and difficult.

First, complete repair of a well is often not possible, so the damage model will likely include damages beyond repair costs. Second, under *Dresser* and other cases, your damages might require consideration of the costs to drill a replacement well. But those cases do not define "replacement well," and drilling a replacement well is not always possible. For a horizontal well completed in an unconventional reservoir (e.g. a shale formation), there might not be a true replacement well. At the time of the *Dresser* decision, most (if not all) wells in Texas produced from conventional reservoirs. In

conventional reservoirs, it is possible that the replacement well could produce the same hydrocarbons that the failed well can no longer produce. In unconventional reservoirs, the drainage area impacted by a well is generally limited to the portion of the reservoir stimulated by hydraulic fracturing operations. Landing another horizontal well in close proximity to a failed horizontal well can create additional problems. For example, if the failure occurs during fracture stimulation operations, but before all the stages are completed, then it is possible that a portion of the failed well remains productive. A replacement well landed too close to those producing stages could adversely impact the existing production when the replacement well is hydraulically fractured. Similarly, the integrity of the portion of the failed wellbore that is not producing may prevent an operator from landing a replacement well too close so as to not jeopardize the failed wellbore during fracturing operations, and thereby strand reserves that should have been otherwise recoverable. These stranded reserves constitute damage to real property.

Determining the proper measure of damages is fact specific; and, in some instances, not easily quantifiable. But Texas law does not require that damages be proven with mathematical precision, only with reasonable certainty through expert testimony.²⁰

Claims and Potential Pitfalls

Given the damages associated with a well failure in a multi-million dollar horizontal well, knowing what potential claims are available is essential. It is also important to be familiar with pre-suit requirements and pitfalls.²¹

A. Tort & Product Liability Claims.

Many typical tort claims apply to well failure cases, such as negligence, negligent misrepresentation, and fraud. Product liability claims, including claims for design defects, manufacturing defects and marketing defects, apply depending on the cause of the failure. Under common law and the Texas Civil Practices & Remedies Code, manufacturers and certain sellers are strictly liable for product defects.²² A manufacturer is broadly defined as a "person who is a designer, formulator, constructor, rebuilder, fabricator, producer, compounder, processor, or assembler of any product or any component part thereof and who places the product or any component part thereof in the stream of commerce."²³ A seller is broadly defined as a "person who is engaged in the business of distributing or otherwise placing, for any commercial purpose, in the stream of commerce for use or consumption a product or any component part thereof."²⁴ By these definitions, all manufacturers are also sellers, but

not all sellers are manufacturers.²⁵ These broad definitions mean that the list of potential defendants can become quite large and include foreign entities. Sometimes identifying and tracking potentially liable parties (such as an overseas manufacturer) is nearly impossible without some assistance from the local product distributor or retailer. Contacting those entities early in the investigative process is key to obtaining documents identifying all parties responsible for the manufacture (as broadly defined by the statute) and distribution of the defective product.

Depending on the specific allegations, the original petition might need a certificate of merit. Section 150.002 of the Texas Civil Practices & Remedies Code requires that the plaintiff include a certificate of merit with the complaint in any action "for damages arising out of the provision of professional services by a licensed or registered professional."²⁶ A licensed or registered professional includes licensed professional engineers or any entity/firm in which such licensed professional engineer practices.²⁷ A certificate of merit is an affidavit from a similarly licensed professional, knowledgeable of the defendant's area of practice, certifying that the defendant's professional actions or omissions were negligent or otherwise erroneous and providing the factual basis for such claims.²⁸ The plaintiff's failure to file the certificate of merit shall result in the dismissal of the complaint against the defendant.²⁹ The dismissal can be with prejudice.³⁰ Given this risk, if there is a question about whether a defendant provided professional services, then consider including a certificate of merit with the original petition. This means that you will need to engage an expert who meets the criteria of Section 150.002 and who is prepared to provide a sworn statement, if necessary, before filing suit.

B. Breach of Contract and Warranty Claims.

Breach of contract claims can also apply, as well as warranty claims (express and implied). Typically, the breach of contract claims are limited to the immediate distributor or retailer of the product. Express and implied warranty claims can go further upstream in the product context. The implied warranties for goods can include the implied warranty of fitness for a particular purpose and the implied warranty of merchantability.³¹ All three warranty claims require some type of pre-suit notice of the breach.³²

The purpose of the notice requirement is to give the seller an opportunity to inspect the product to determine whether it was defective and to allow the seller an opportunity to cure the breach.³³ According to the comments to Section 2.607 the "content of the notification need merely be sufficient to let the

seller know that the transaction is still troublesome and must be watched... The notification which saves the buyer's rights under this Article need only be such as informs the seller that the transaction is claimed to involve a breach, and thus opens the way for normal settlement through negotiation."³⁴ The comments suggest that there is not a requirement that the notification "be a claim for damages or of any threatened litigation or other resort to a remedy."³⁵ A general expression of the buyer's dissatisfaction may be sufficient to comply with section 2.607.³⁶ The notice provisions are not stringent and are liberally construed by the Texas courts.³⁷ That being said, sending potential defendants letters that inform them of potential claims against them is usually the best approach.

Another pre-suit requirement is to provide any notice required under insurance policies or applicable contracts. Such notices are often a condition precedent to obtaining insurance coverage or pursuing breach of contract claims.

Conclusion

Steps taken in the immediate aftermath of a failure event such as the proper preservation of key evidence can dramatically affect the well operator's ability to successfully evaluate and prosecute their claims. Cases can be won or lost at this critical stage and so it is wise to consider and plan for the possible contingencies that might arise.

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¹ For a list of RRC-designated Hydrogen Sulfide fields see <http://www.rrc.state.tx.us/oil-gas/research-and-statistics/field-data/h2s/>.

² 16 Tex. Admin. Code §3.36.

³ Evacuation is not required in every instance and, in fact, shelter-in-place is often the recommended course of action.

⁴ 33 U.S.C.A. §§1251 *et seq.*; 33 U.S.C.A. §§ 2701 *et seq.*

⁵ 16 Tex. Admin. Code §3.30 (e)(8).

⁶ 16 Tex. Admin. Code §3.20 (a)(1).

⁷ *Id.*; see RRC Form H-8 entitled "Crude Oil, Gas Well Liquids, or Associated Products Loss Report."

⁸ See 16 Tex. Admin. Code §3.91 (a)(2) for definition of "sensitive areas"; see also Railroad Commission of Texas "Field Guide for the Assessment and Cleanup of Soil and Groundwater Contaminated with Condensate From a Spill Incident" (2016).

⁹ *Id.*

¹⁰ 16 Tex. Admin. Code § 3.30(e)(8)(C)(i).

¹¹ 30 Tex. Admin. Code § 327.3.

¹² 30 Tex. Admin. Code § 101.201.

¹³ A witness statement is a (1) written statement signed or otherwise adopted or approved in writing by the person making it, or (2) a stenographic, mechanical, electrical, or other type of recording of a witness's oral statement, or any substantially verbatim transcription of such a recording, Tex. R. Civ. P. 192.3(h).

¹⁴ *Cressman Tubular Products Corp. v. Kurt Wiseman Oil & Gas, Ltd.*, 322 S.W.3d 453, 462 (Tex. App.--Houston [14th Dist.] 2010, pet. denied).

¹⁵ *Id.*

¹⁶ *Id.* at 461-462; *Bay Rock Operating Co. v. St. Paul Surplus Lines Ins. Co.*, 298 S.W.3d 216, 230 (Tex. App.--San Antonio 2009, pet. denied).

¹⁷ *Dresser Indus., Inc. v. Page Petroleum, Inc.*, 853 S.W.2d 505, 511-12 (Tex. 1993, rehearing overruled). In a case cited in the *Dresser* decision, the plaintiff experienced a well failure when defective tubing collapsed in the well. *Atex Pipe & Supply, Inc. v. SESCO Prod. Co.*, 736 S.W.2d 914 (Tex. App.--Tyler 1987, writ denied). When the tubing was pulled from the well, the workers observed a totally collapsed joint of tubing. Due to this collapse and spent acid left on the geological formation, the well was effectively plugged. Under these facts, the Tyler court of Appeals determined the proper measure of damages to be the lesser of 1) the cost of drilling and equipping a new well less salvage, or 2) the reasonable cash market value of the well immediately before and immediately after the tubing collapse. *Atex Pipe & Supply, Inc.*, 763 S.W.2d at 917...

¹⁸ *Dowell, Inc. v. Cichowski*, 540 S.W.2d 342 (Tex. Civ. App.--San Antonio 1976, no writ); *Cressman Tubular Prods. Corp. v. Wiseman Oil & Gas, Ltd.*, 322 S.W.3d 453 (Tex. App.--Houston [14th Dist.] 2010, pet. denied); *Bay Rock Operating Co. v. St. Paul Surplus Lines Ins. Co.*, 298 S.W.3d 216 (Tex. App.--San Antonio 2009, pet. denied); *Basic Energy Service, Inc. v. D-S-B Properties, Inc.*, 367 S.W.3d 254 (Tex. App.--Tyler 2011, no pet.).

¹⁹ *Cressman Tubular Prods. Corp.*, 322 S.W.3d at 462.

²⁰ *Basic Energy Service, Inc.*, 367 S.W.3d at 266.

²¹ This Primer is not intended to address all the elements of a specific claim, but instead focuses on some pre-suit elements or requirements.

²² *Magic Chef, Inc. v. Sibley*, 546 S.W.2d 851 (Tex. Civ. App.--San Antonio 1977, writ ref'd n.r.e.); WILLIAM V. DORSANEO, III, TEX. LITIGATION GUIDE § 320.02[2][a][ii] (2013); Section 402A of the RESTATEMENT (SECOND) OF TORTS (1965); Chapter 82 of the Texas Civil Practices & Remedies Code.

²³ TEX. CIV. PRAC. & REM. CODE ANN. §82.001(4).

²⁴ TEX. CIV. PRAC. & REM. CODE ANN. §82.001(3).

²⁵ *GMC v. Hudiburg Chevrolet, Inc.*, 199 S.W.3d 249, 256 (Tex. 2006).

²⁶ TEX. CIV. PRAC. & REM. CODE ANN. §150.002(a).

²⁷ TEX. CIV. PRAC. & REM. CODE ANN. §150.001(1-a). There are other professionals in the definition, but licensed professional engineers are likely the most relevant to a well failure case.

²⁸ TEX. CIV. PRAC. & REM. CODE ANN. §150.002(a) and (b).

²⁹ TEX. CIV. PRAC. & REM. CODE ANN. §150.002(e).

³⁰ TEX. CIV. PRAC. & REM. CODE ANN. §150.002(e).

³¹ If services are involved, then the common-law implied warranty of good and workmanlike performance of services for the repair and modification of existing tangible goods might apply.

³² TEX. BUS. & COMM. CODE ANN. §2.607(c)(1).

³³ *Enpro Sys., Ltd. v. Namasco Corp.*, 382 F.Supp.2d 874, 890 (S.D. Tex. 2005).

³⁴ TEX. BUS. & COM. CODE ANN. §2.607 cmt. 4.

³⁵ *Id.*

³⁶ *Lochinvar Corp. v. Meyers*, 930 S.W.2d 182, 189-190 (Tex. App.--Dallas 1996, no writ); *Hull v. S. Coast Catamarans, L.P.*, 365 S.W.3d 35, 43-44 (Tex. App.--Houston [1st Dist.] 2011, pet. denied).

³⁷ *Enpro Sys., Ltd.*, 382 F.Supp.2d at 890.