The Tale of the Re-Discovery of the Brookshire Uranium Deposit …. Whose Time has Come.

Presented to the Houston Geological Society

At the Environmental and Engineering Group's Dinner Meeting

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Extended Abstract & Biographies

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Version 1.5

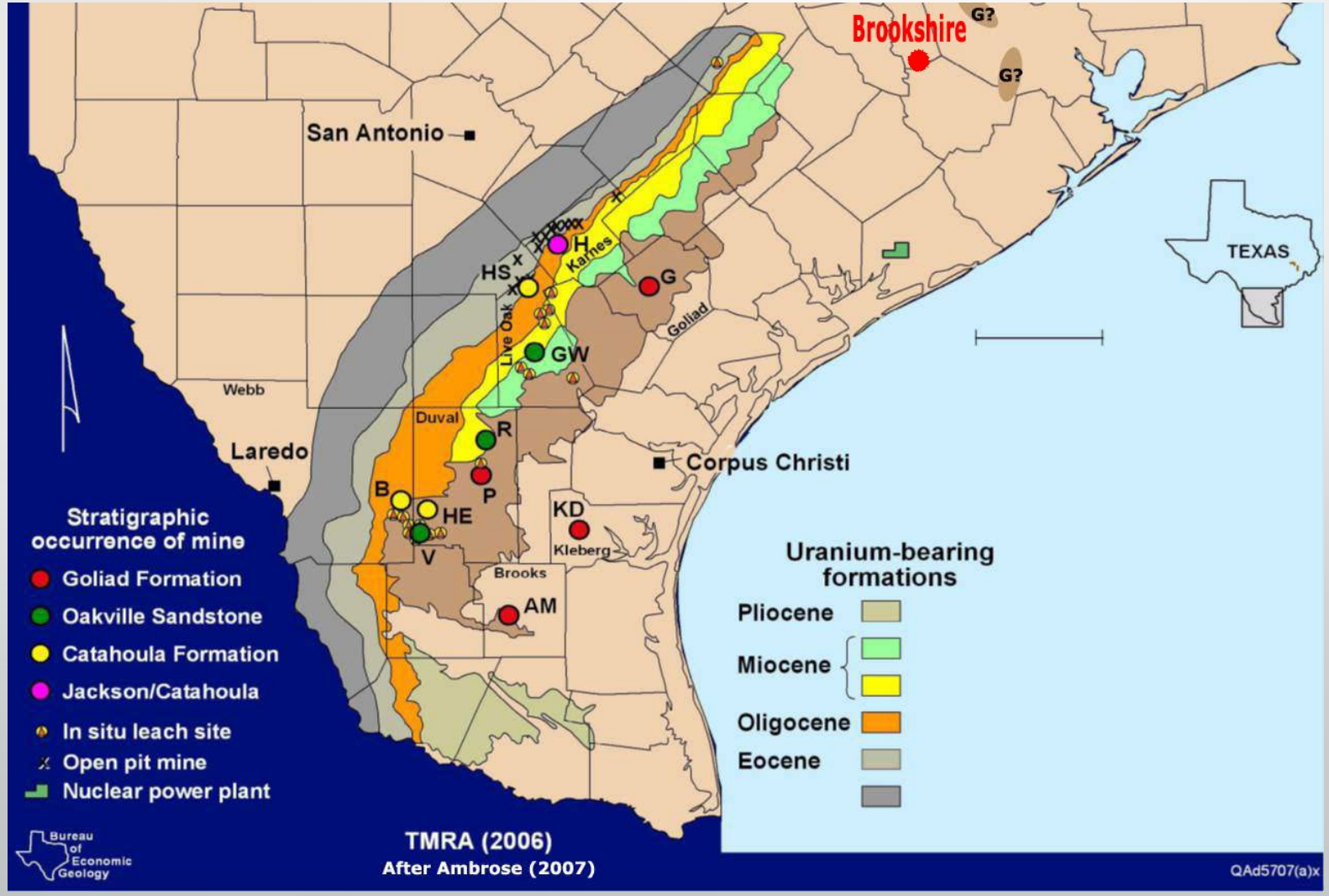
I2M
The I2M Corporation (Texas)
Katy, Texas

HOUSTON GEOLOGICAL SOCIETY
1923

Purpose of Presentation:

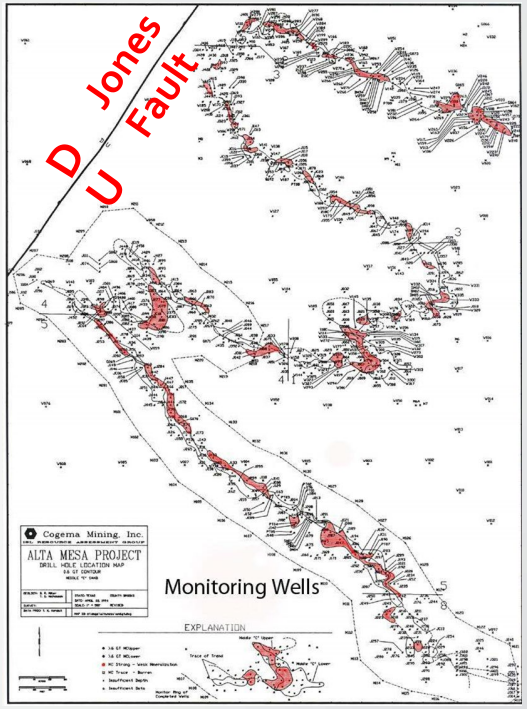
- To Advise the Members of the HGS on I2M's Findings to Date on the History, Type, Need, and Plans for the Development of the Brookshire Uranium Deposit,
- To Describe the History of the Discovery of Deep Uranium in Brookshire Area,
- To Inform on Nature of In-Situ Uranium Recovery Operations,
- To Assess Perceived Risks to Surface, Water-Table Wells, Radioactivity & Flooding,
- To Characterize the Status of I2M Investigations to Date.

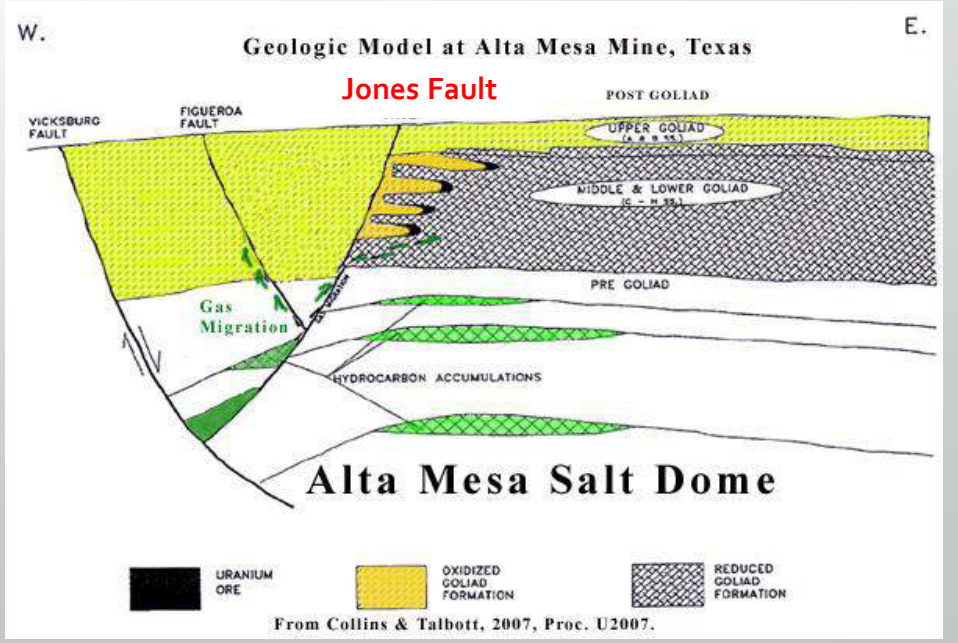
Is There Uranium in East Texas? Yes, and millions of pounds of it in the deep subsurface just southwest of Brookshire. And the deposit may justify a multi-million-dollar investment for an in-situ uranium recovery operation.



Over the past 60 years, the existing in-situ uranium recovery operations in South Texas have removed millions of pounds of uranium and continue to successfully remove uranium from deep deposits without impact on the environment or groundwater resources, which demonstrates the overall environmental and economic viability of the uranium production industry in Texas.

At the Alta Mesa project in South Texas, this figure shows the typical configuration of the roll-front mineralization that formed along an "oxidation-reduction front" in the deep subsurface of four sand intervals.

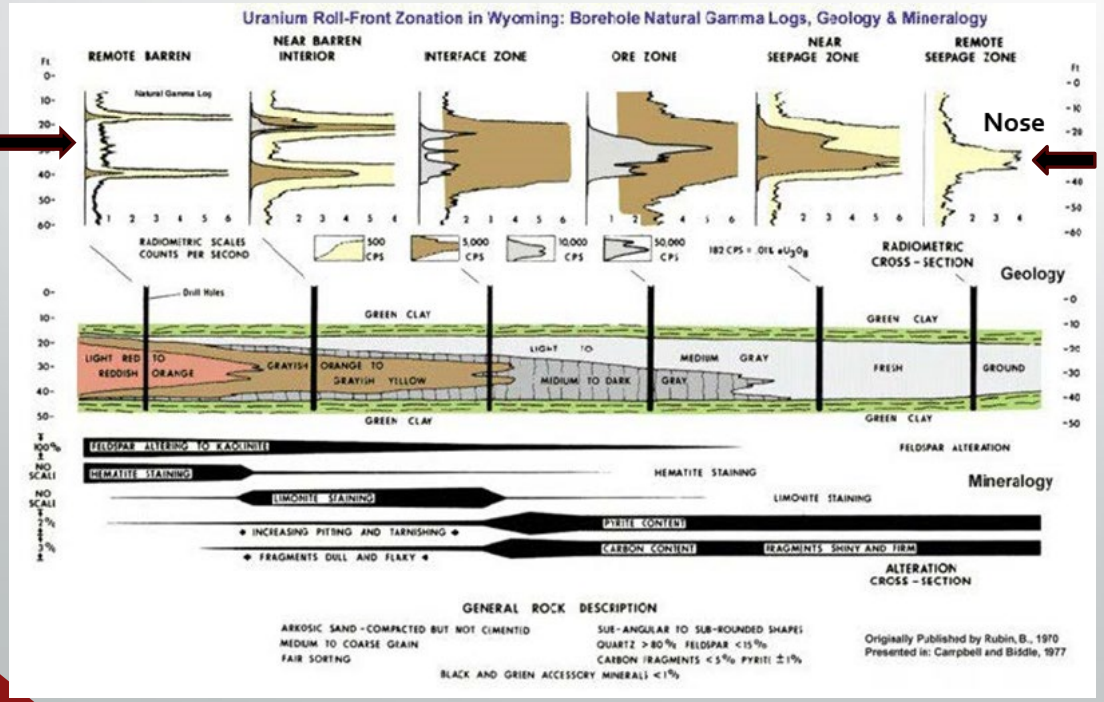




The I2M Corporation (Texas)

How Does the Uranium Occur?

- An open-pit mine once existed in central Texas called the Conquista Mine operated by Conoco in the 1960's. A photo was taken showing the ore body in the high wall of the mine just before it was excavated and the ore sent for processing into yellowcake. Note: the gray roll of uranium ore was surrounded by thin zones of molybdenum (purple) and selenium zones (red). The latter two zones are often absent. The zones are examples of biogeochemical cells.



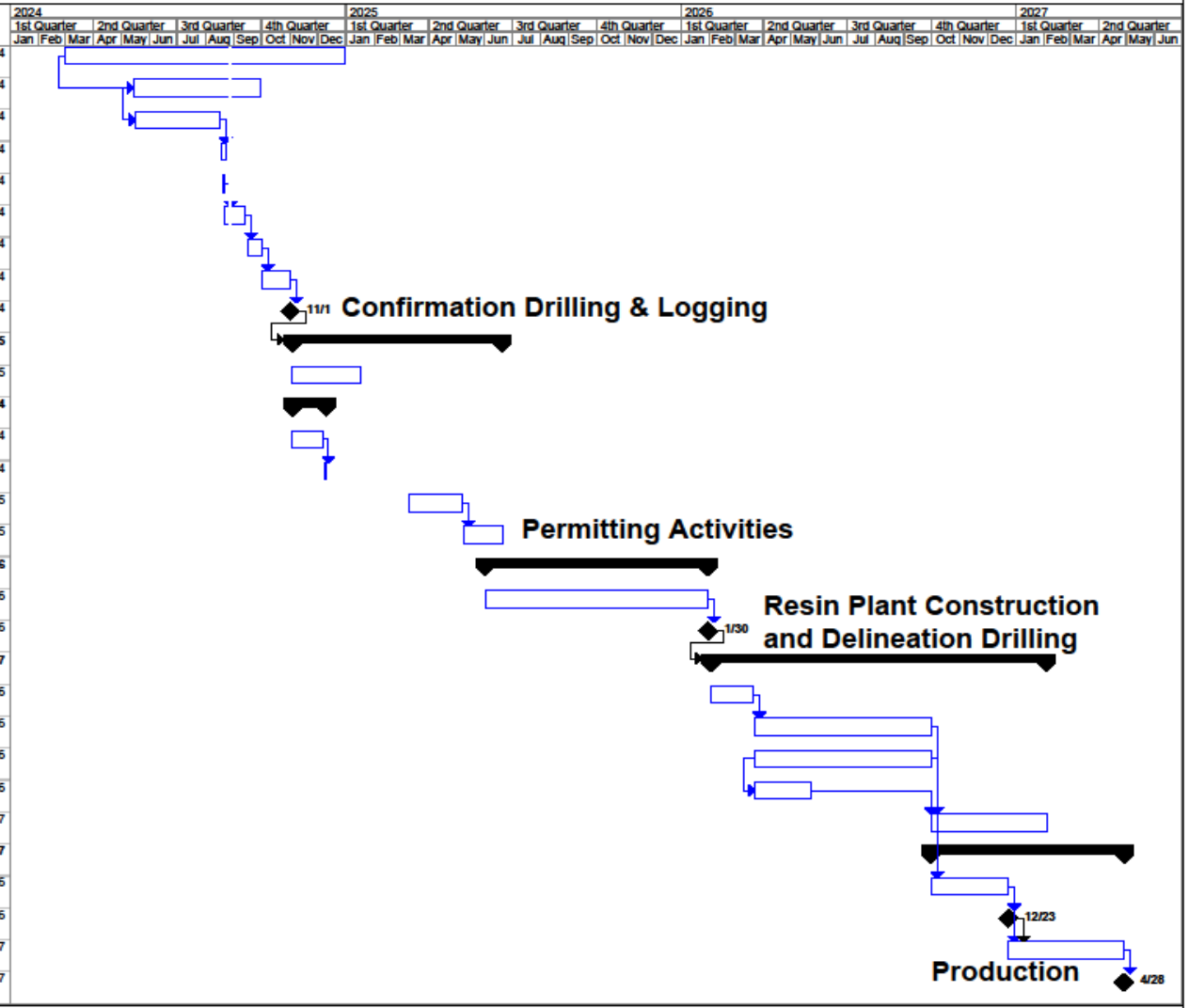
- Having this example as a go-by, and of others developed in the day of open-pit uranium mines in 1960's, a geologist generated a zonation guide to assist drilling, see "Tails" & "Nose" in figure.
- Combining the characteristics of the drill cuttings with those of the gamma log, the drill-site geologist would be able to focus on the ore body to locate in-situ production wells. (For details, see Campbell & Biddle, 1977).

Plans for Development of the Brookshire Uranium Project

BROOKSHIRE URANIUM PROJECT

PRELIMINARY SCHEDULE PROJECTION: Version - August 29, 2024

ID	Task Name	Duration	Start	Finish
1	**Mineral and Surface Owner Discussions on Potential Project.**	218 days	Fri 3/1/24	Tue 12/31/24
2	Prepare & Revise Mineral/Surface Lease Documents	99 days	Wed 5/15/24	Mon 9/30/24
3	Prepare I2M Position Paper of Findings on In-Situ Uranium Recovery Operations	66 days	Fri 5/17/24	Fri 8/16/24
4	Presentation of Project Elements to	5 days	Mon 8/19/24	Fri 8/23/24
5	Field Trip to South Texas to Review Similar In-Situ Uranium Recovery Operations	1 day	Wed 8/21/24	Wed 8/21/24
6	Decision by to Proceed	17 days	Thu 8/22/24	Fri 9/13/24
7	Final Lease Negotiations (Mineral & Surface)	12 days	Mon 9/16/24	Tue 10/1/24
8	Legal Counsel Review	14 days	Wed 10/2/24	Fri 11/1/24
9	Execute Leases	0 days	Fri 11/1/24	Fri 11/1/24
10	**Phase 1 - Confirmation Drilling & Logging**	**165 days**	**Mon 11/4/24**	**Fri 6/20/25**
11	Drill-Hole Permitting from TRRC (6 Holes)	54 days	Mon 11/4/24	Thu 1/16/25
12	**Budget Preparation**	**27 days**	**Mon 11/4/24**	**Tue 12/10/24**
13	Drilling & Logging Costs	25 days	Mon 11/4/24	Fri 12/6/24
14	I2M Review & Report on Budget Submittal	2 days	Mon 12/9/24	Tue 12/10/24
15	Confirmation Drilling & Logging	43 days	Tue 3/11/25	Thu 5/8/25
16	I2M Review & Report Findings, Proceed Decision	31 days	Fri 5/9/25	Fri 6/20/25
17	**Phase 2 - Permitting Activities**	**175 days**	**Mon 6/2/25**	**Fri 1/30/26**
18	Initiate Permitting (TCEQ, RRC, County) Meetings and Discussions. Data Review and Research.	175 days	Mon 6/2/25	Fri 1/30/26
19	Permitting Complete & Approvals	0 days	Fri 1/30/26	Fri 1/30/26
20	**Phase 3 - Development Activities**	**262 days**	**Tue 2/3/26**	**Wed 2/3/27**
21	Budgeting & Further Studies	34 days	Tue 2/3/26	Fri 3/20/26
22	Equipment Orders & Satellite Processing Plant Construction	138 days	Mon 3/23/26	Wed 9/30/26
23	Delineation Drilling, Logging, & Wellfield Installation PAA-1	138 days	Mon 3/23/26	Wed 9/30/26
24	Monitoring Well Construction Per PAA	45 days	Mon 3/23/26	Fri 5/22/26
25	Exploration Leasing,Permitting, Drilling & Logging, Expansion Trends to West & South	90 days	Thu 10/1/26	Wed 2/3/27
26	**Phase 4 - Initiation of Production**	**150 days**	**Thu 10/1/26**	**Wed 4/28/27**
27	Satellite Resin Processing Plant Commissioning	60 days	Thu 10/1/26	Wed 12/23/26
28	First Production Obtained at Satellite Plant	0 days	Wed 12/23/26	Wed 12/23/26
29	Production Ramp-Up	90 days	Thu 12/24/26	Wed 4/28/27
30	Steady State Production	0 days	Wed 4/28/27	Wed 4/28/27



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Katy, Texas

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

DISCLAIMER - This schedule is for example & illustration purposes only. It is subject to change based on many factors, including supply-chain delays and weather delays. It should not be relied upon as an accurate schedule due to many variables beyond control of the company. This schedule will be revised as updates become available to I2M management.

The I2M Corporation (Texas)
Katy, Texas

Drilling to Confirm, to Produce and to Expand the Reserves Base

There are three functions for drilling in this project:

- **1. Phase I** Confirmation Drilling by I2M to Assess "Go-No," If "Go," Funding will initiate **Phase II** and formal permitting processes will be initiated.
- **2.** Once permitted by TCEQ, TRRC, etc., exploration drilling and well logging will be initiated to expand and/or define additional uranium resource base in projected trend areas, and concurrently,
  - **3.** Once permitted, processing plant to be installed and production start up with delineation drilling and installation of injection and uranium recovery wells in 5-spot, 3-spot and/or linear-well spacings.

5 Ft-Drilling Samples down to 560 Feet
Note: *Oxidized (orange) and Unoxidized or Reduced Samples (Gray).*

Geophysical Logging of Drill-Hole

The Discovery of the Deep Uranium in 1981

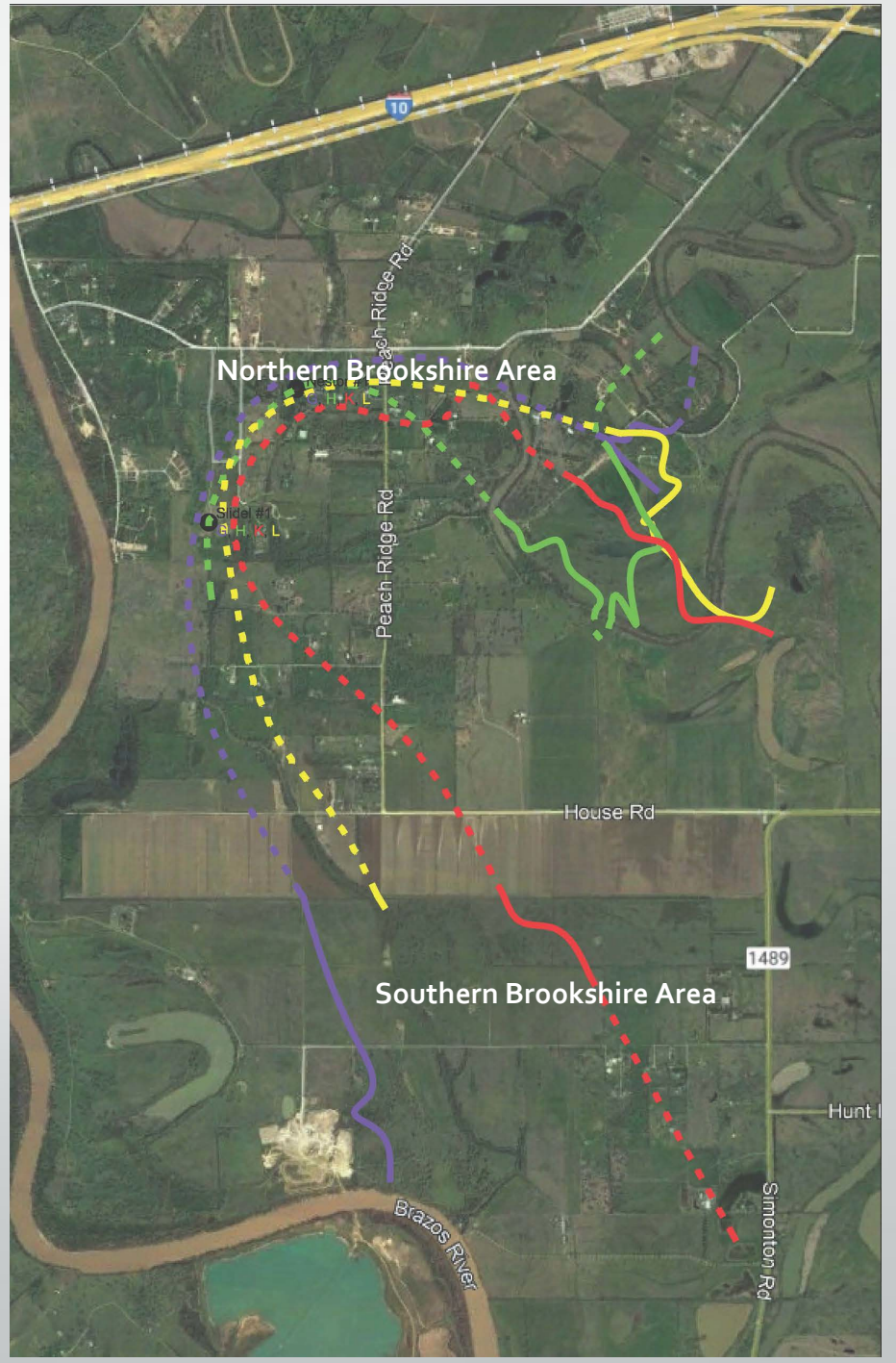
- First discovered by Henry Wise, P.G., C.P.G. (now I2M's Vice President – Operations) in the geophysical logs of three oil & gas wells in 1981.
- Based on subsequent drilling by 1983, multiple intervals of sands off the flanks of San Felipe Salt Dome (SW of Brookshire) were discovered to contain important deep uranium roll-front deposits that may now be economic to recover and process into yellowcake to be processed into fuel for nuclear power plants.
- Uranium is an energy-intensive resource that is in great demand now and in the foreseeable future to fuel nuclear power plants, both the existing large plants and the small, modular plants (SMRs) that will begin to provide local grids by the end of the decade, or sooner.

(Campbell Handoff to Wise)

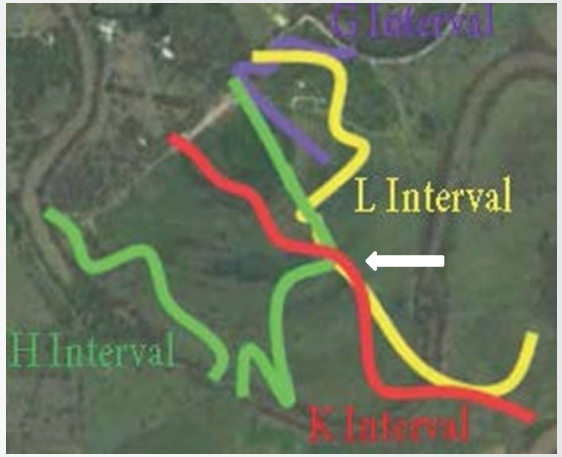
Known & Likely Extent of Uranium Intervals

- The four intervals, identified as Intervals **G**, **H**, **K**, and **L** are shown in this figure. Some of them appear to extend from the Northern Brookshire project area to the Southern Brookshire project area at depths ranging from about 400 feet to 700 feet below surface. Additional zones may occur deeper than 700 feet.

Note: The Interval Trends that were identified by the 1980's drilling are shown as solid lines. The dashed lines are projected trends that require confirmatory drilling.



Northern Brookshire Intervals and Their Trends



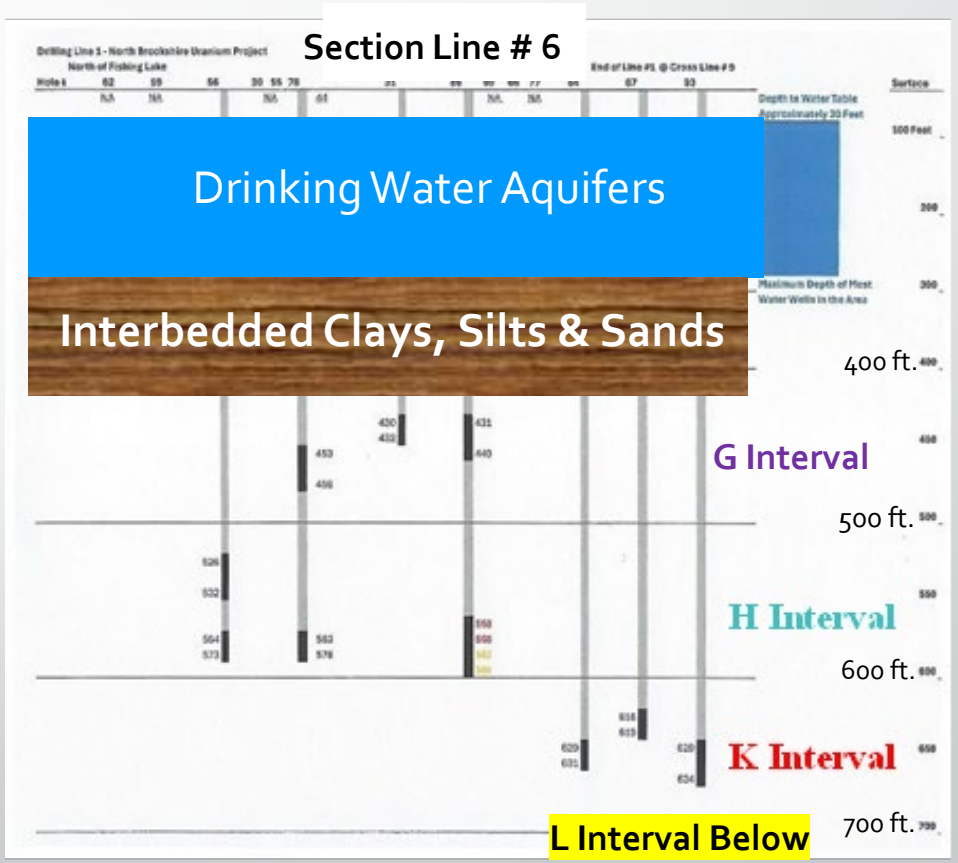
- A concentration of trends is present within the bounds of the Bessie Creek meander east of the Brazos River at one location, three of the intervals (the H, K, and L) are stacked, one interval above another (see white arrow).

- Almost 300 holes were eventually drilled and logged by 1983, some holes were drilled on 200 ft-centers in order to appraise the roll-front mineralization for future delineation drilling for injection & recovery. But this never happened because of a drastic decrease in the price of yellowcake and negative forecasts.

The I2M Corporation (Texas)

Northern Brookshire Intervals and Their Trends (Cont'd)

- An example drilling cross section shows that the roll-front intervals encountered appear to be associated with individual sand units that reportedly showed good correlation throughout the Brookshire area.
- The drinking-water aquifer intervals are shown within the shallow blue zone, well above and separated by numerous clay, silt & sands zones (brown). Below, Interbedded sands and clays contain uranium roll-fronts of the **G** interval and three other intervals below, i.e., **H**, **K**, and **L**.
- Hole notations: Top and Bottom depths of encountered during drilling uranium mineralization, as indicated by geophysical logs, which were lost or trashed in the 1980s.



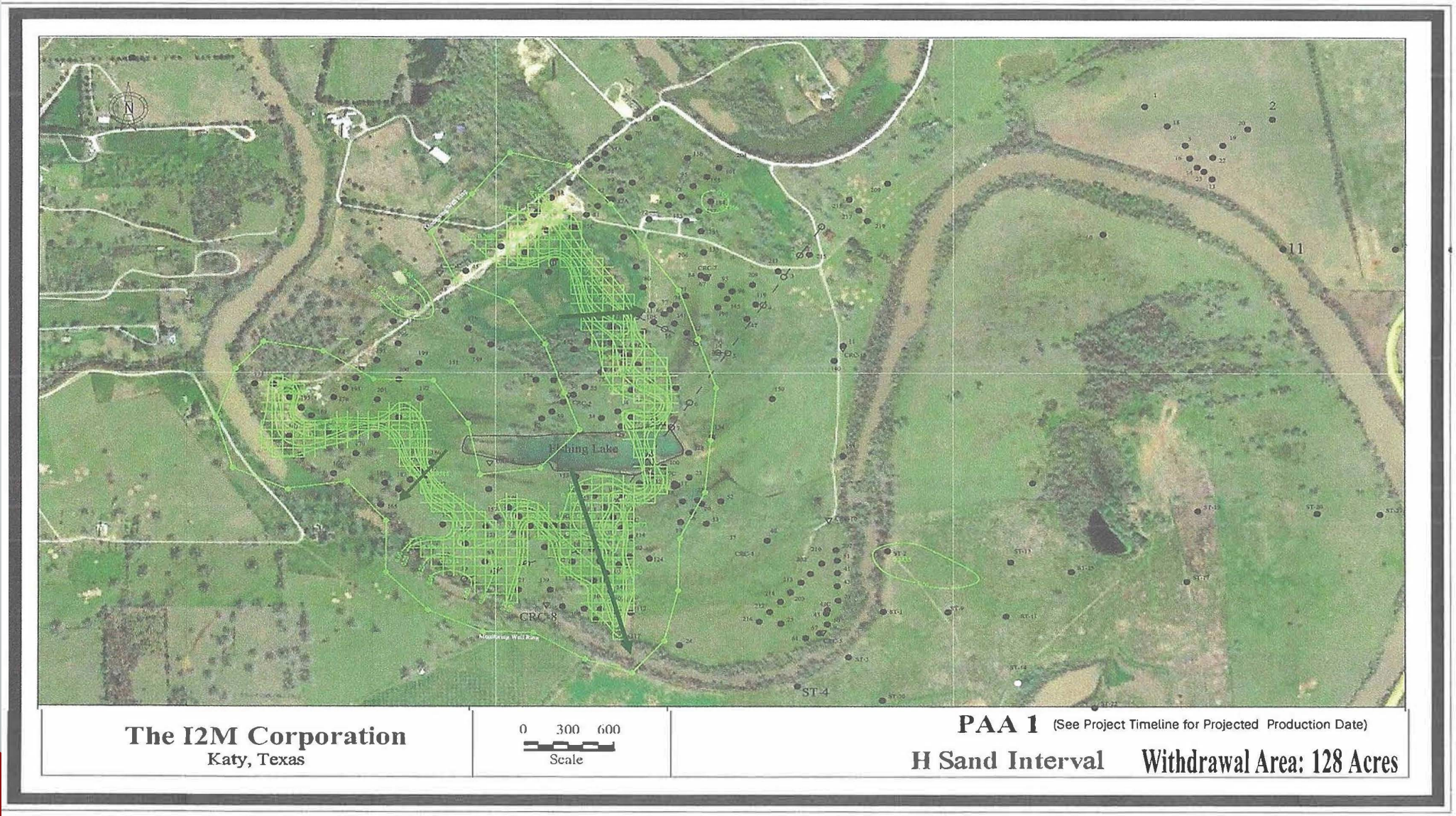
Northern Brookshire Intervals and Their Trends (Cont'd)

In the following series of slides:

- The drilling sites of the 1980s are shown as black dots,
- Arrows show the direction that the roll-front is moving very slowly, based on interpretation of the geophysical logs, i.e., tails and noses,
- The cross-hatched areas are the designated "Withdrawal Areas" where the uranium trends are indicated in the form of roll-fronts within the **H** interval through the **G** interval (in the sequence of likely development), followed by a composite view of all 4 trends as stacked zones, and
- The designated "Withdrawal Areas" will contain the well production patterns to be installed for uranium-recovery operations. Also note the ring of monitoring wells, which will allow regular sampling of the hydrochemistry to detect any production fluids, should any unlikely escape the system that are under strict pressure control.

Northern Brookshire Uranium Primary Production Authorized Areas and Withdrawal Areas

G, H, K, and L Sand Intervals



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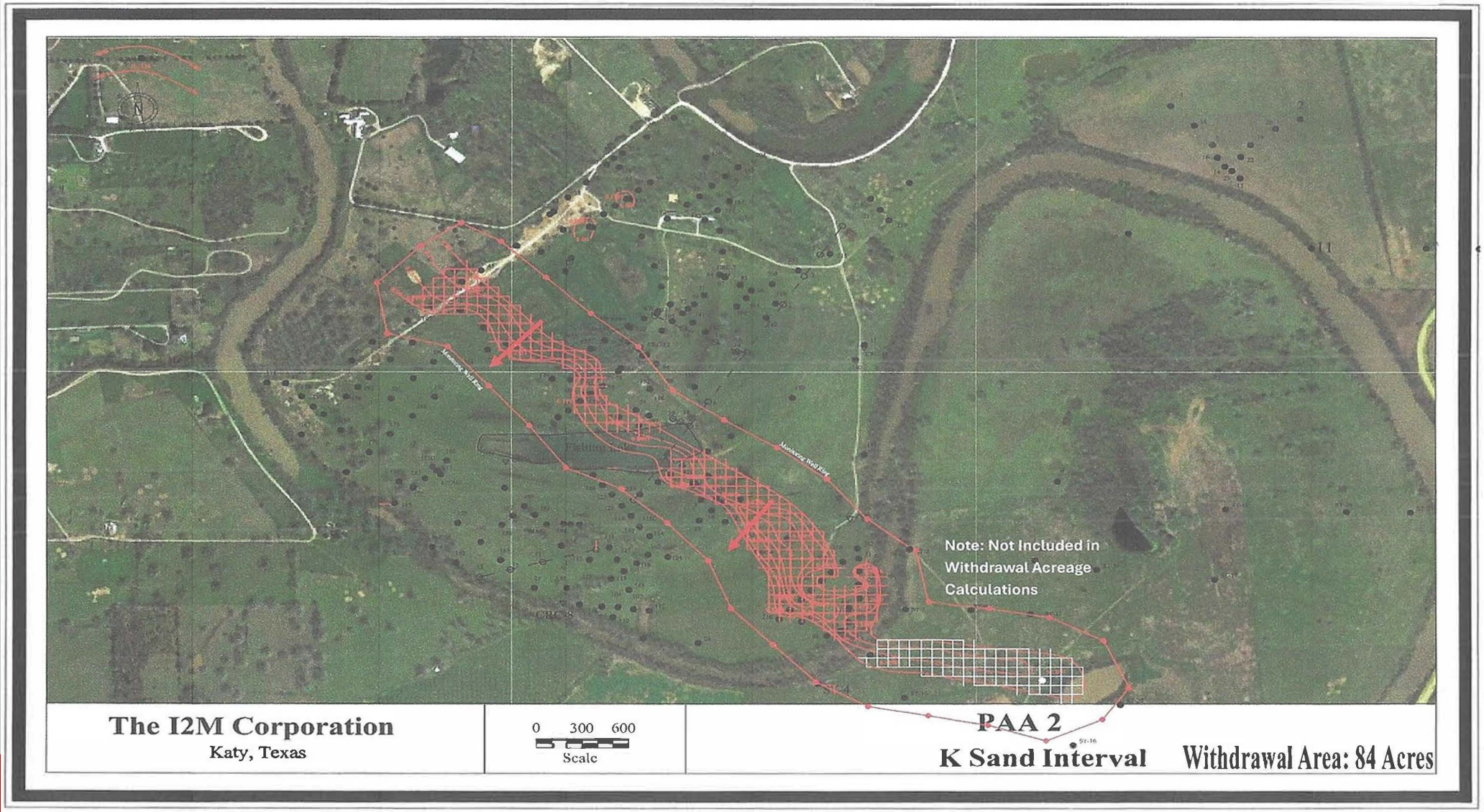

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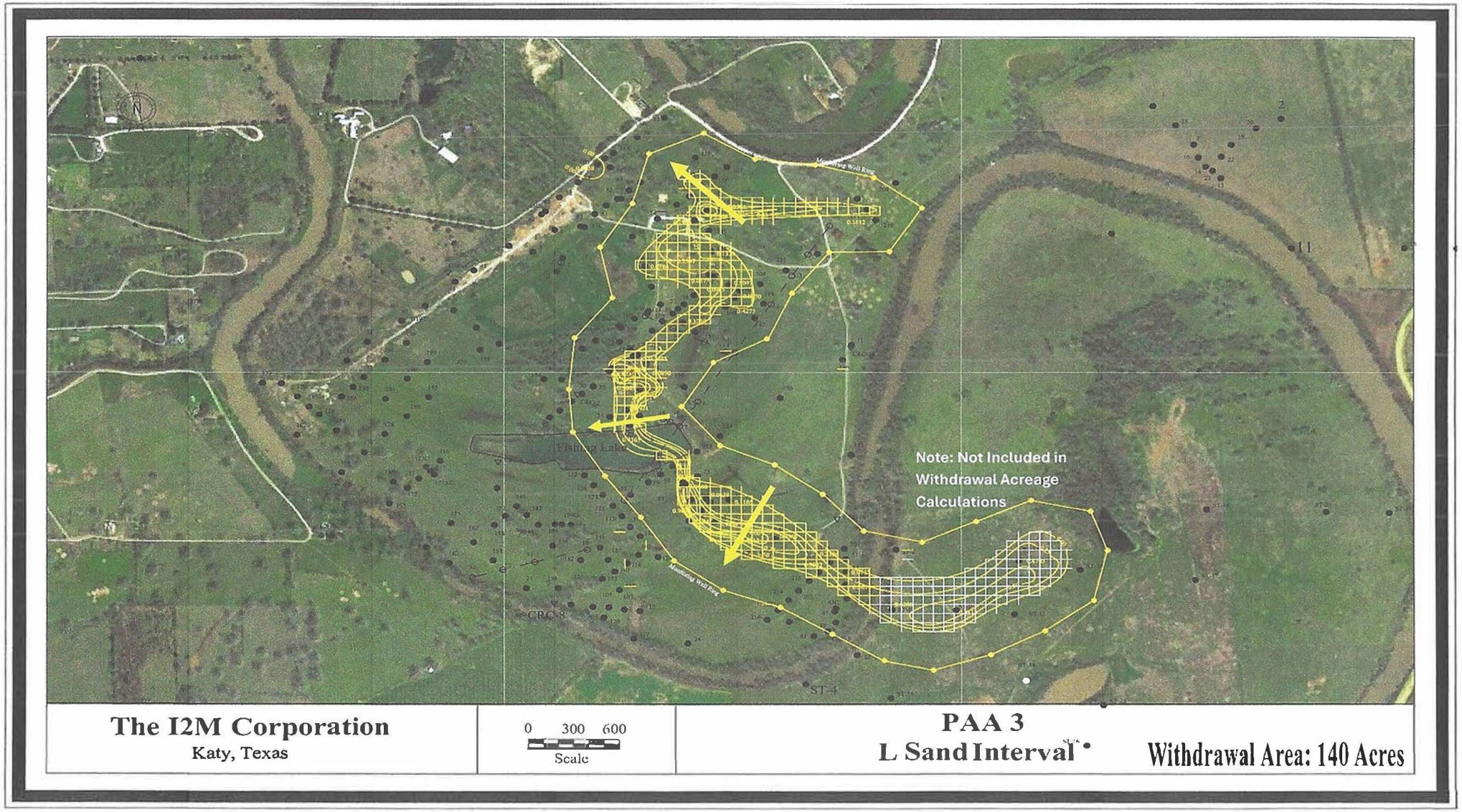

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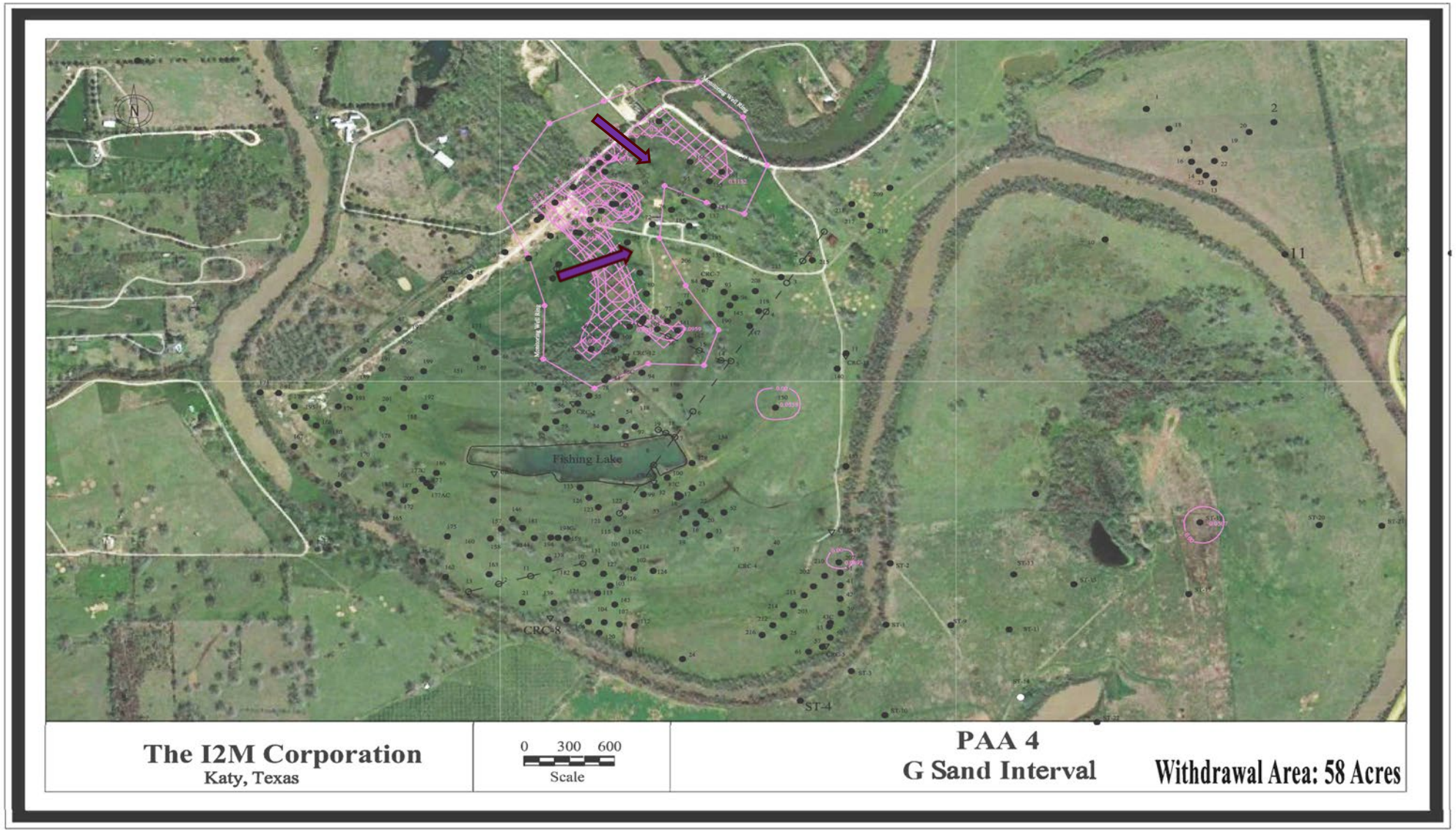

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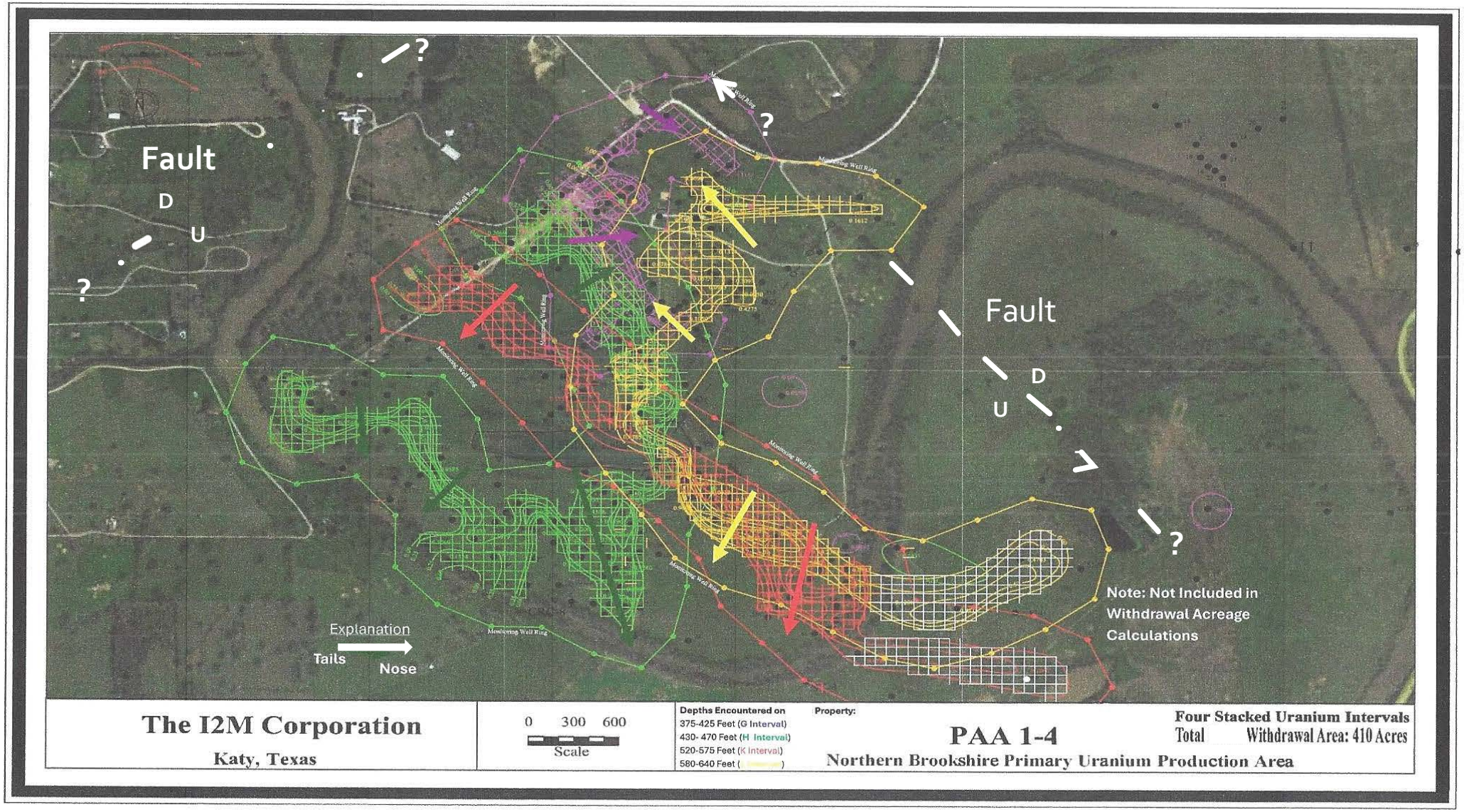
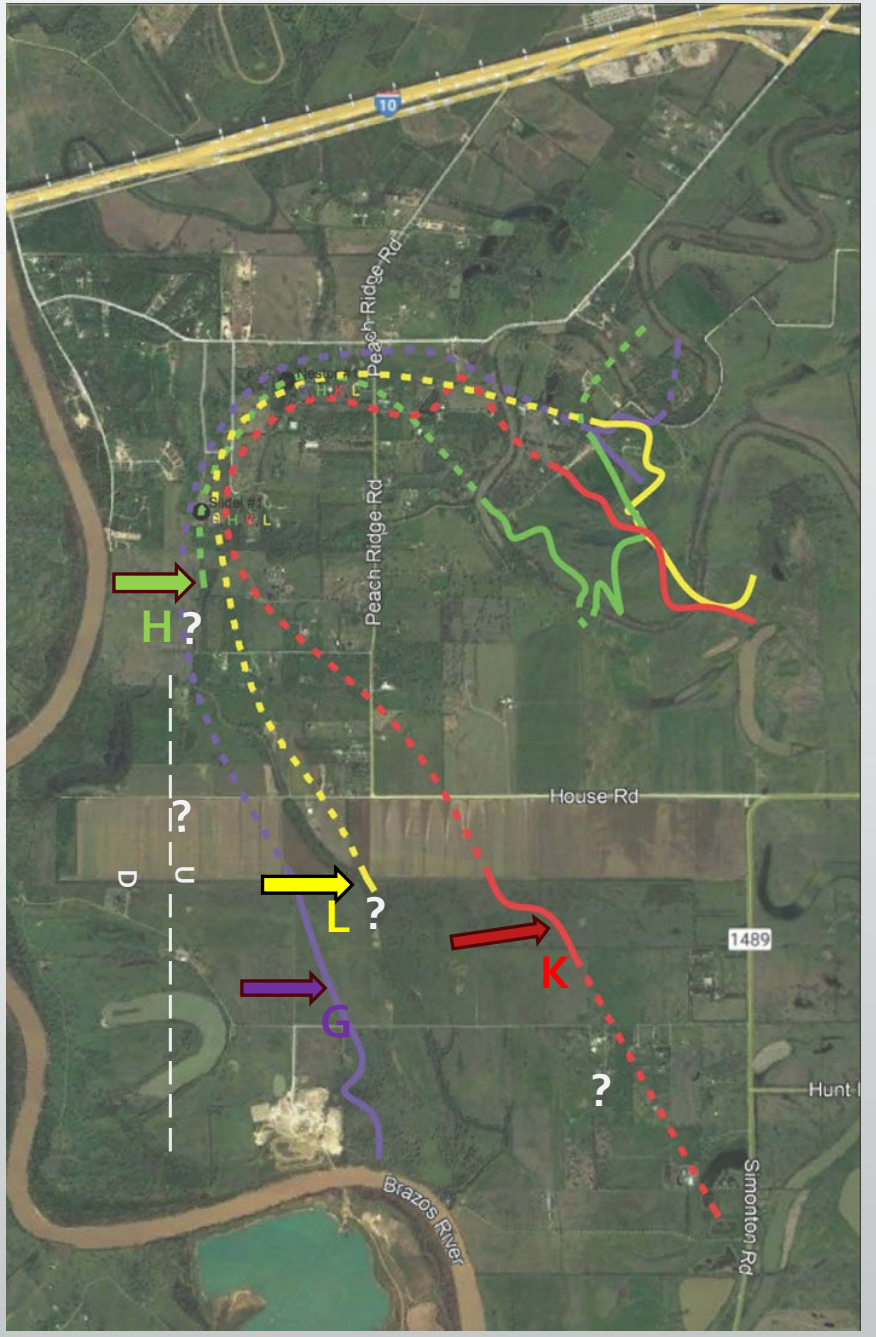


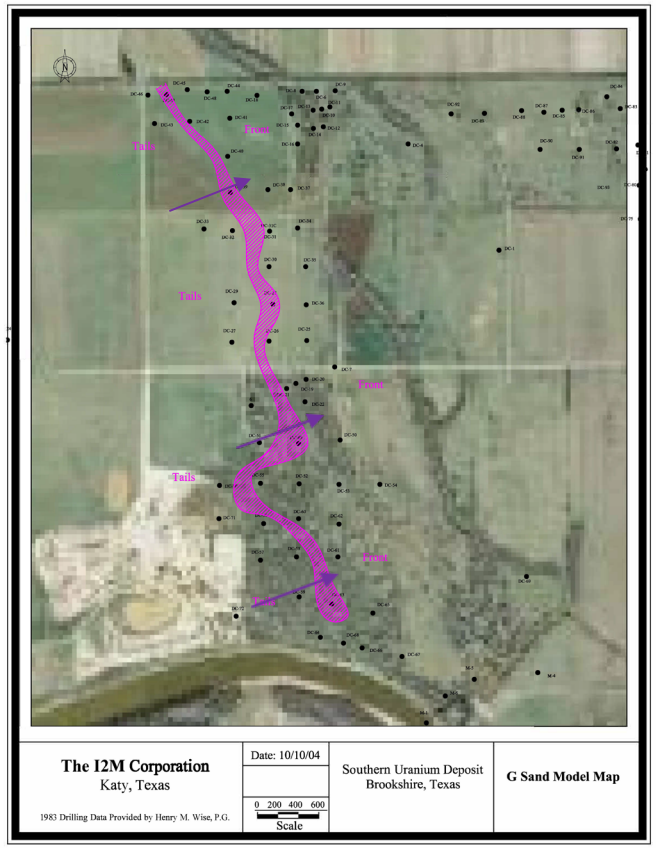
Southern Brookshire Intervals and Their Trends

- Drilling records in the southern area have shown the intervals identified in the north to be remarkably continuous and predictable in the southern area, although somewhat deeper.
- The presence of such intervals require the presence of faulting to the west of the mineralized trends.
- The shape of the Brazos River suggests faulting impacting the surface and at depth being the source of methane or H2S driving the roll-front mineralized intervals.
- This possible fault also suggests that the H, G, L, and K mineralized intervals might be present, and even oil and gas at greater depths as in the Northern Brookshire Area, from which it likely provided the CH_4 & H_2S.

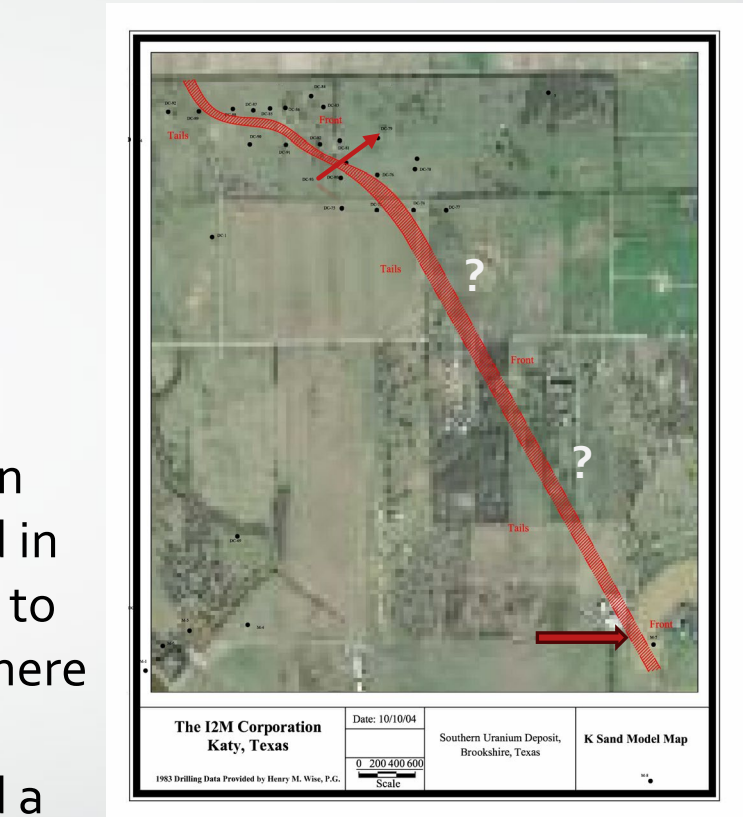


Southern Brookshire Intervals and Their Trends

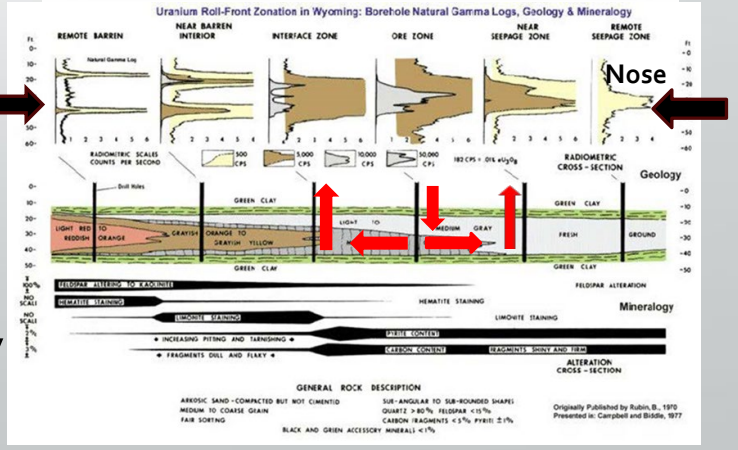
- The **G** interval here shows a strong continuity in the trend, which as suggested by the other trends as well, the other mineralized intervals may be more wide-spread than once assumed in general area.



- The **K** trend has been tentatively identified in part and is projected to extend to the SSE where <u>one hole</u> was drilled. Those data indicated a roll-front was likely nearby.



Tails



- Direction of roll-front movement indicated gamma logs, i.e., "tails" and "noses"

(Wise Handoff to I2M Team: MDC)

But Are There Potential Risks to an In-Situ Uranium Recovery Operation?

Myths and Facts

MDC

- **Myth:** Surface uranium mining can pose significant risks to human health and the environment, as noted in many internet reports.
- **Fact:** There are many reports on the Internet that uranium activities are focused on out-of-date or exaggerated information relating to old open-pit (surface) mines and their associated wastes. This is not relevant to post in-situ recovery remediation, which leaves a negligible footprint.

HMW

- **Myth:** Neither the TCEQ nor the TRRC (Texas Railroad Commission) provides sufficient regulation and oversight of in-situ recovery (ISR) operations in Texas.
- **Fact:** The TCEQ imposes stringent permitting requirements and operational oversight for ISR projects. The TRRC (Texas Railroad Commission) regulates surface-mining activities and exploratory drilling but not uranium recovery operations. MSHA (the federal Mine Safety and Health Administration) oversees surface mining operations but does not regulate mining operations in Texas. The federal EPA is involved on a case-by-case basis when requested by the state.

Myths and Facts (Continued)

BH
- **Myth:** Human health and wildlife exposures are significant in uranium operations.
- **Fact:** Human and wildlife exposures to uranium and by-products are very minor in Texas ISR projects. Uranium concentration in produced fluids exhibits very low radioactivity. The entire in-situ process, including producing yellowcake, involves very minor radioactivity.

BH
- **Myth:** People who work in processing plants can be exposed to harmful radioactivity.
- **Fact:** Plant personnel are required to wear personal protective equipment via federal and state regulations to mitigate an occasional dusty environment, but there is zero risk of landowners being exposed to harmful radioactivity.

BH
- **Myth:** Any radioactivity should be avoided as a potential health risk.
- **Fact:** Fear of exposure to radioactivity has been wildly exaggerated by anti-mining and anti-nuclear power groups. Low-level radiation has always been present in our everyday lives from radiation from our sun, from x-ray examinations, during high-altitude air travel, in fertilizers, and even from radioactive potassium in bananas and Brazil nuts.

Myths and Facts (Continued)

MDC
- **Myth:** The risk of potential damage to the surface and shallow water-table wells where ISR operations are conducted is unavoidable.
- **Fact:** There has never been a specific project case where these risks have been realized!

HMW
- **Myth:** Disposal of waste groundwater constitutes another opportunity for contamination of drinking water.
- **Fact:** Only about 1% (by volume) of the recycled groundwater is disposed in a very deep, highly regulated disposal well. Oil and gas producers also dispose their excess fluids (brines) in similar deep disposal wells. These disposal wells inject produced water into very deep sands containing highly saline groundwater and are also regulated.

HMW
- **Myth:** Uranium companies have left the land with significant surface contamination.
- **Fact:** The TCEQ requires all uranium companies to provide financial assurance for any required future cleanups (insurance, bonds, etc.). The old days of mining companies abandoning surface mining projects are no longer permitted by the State.

Myths and Facts (Continued)

MDC
- **Myth:** Property values are going to be adversely affected by the presence of a former ISR operation.
- **Fact:** Any surface contamination and radioactivity exposure, as discussed above, would be minimal. Regarding property values, the selected properties already contain uranium in the subsurface over a wide area and hence any assessment of its real-estate value would include a disclosure of uranium-mineralized groundwater in the deep subsurface.

MDC
- **Myth:** If your company goes bankrupt, there will be no funds to pay for remediation of affected property.
- **Fact:** The proposed lease allows for significant funds to be paid to the surface owners for the temporary use of their lands and a commitment that the leased lands would be remediated to at least pre-mining conditions, with funds guaranteed by a TCEQ-mandated bond.

HMW
- **Myth:** It is not the time or place for the Brookshire area to commit to an In-Situ Uranium Recovery project.
- **Fact:** Texas citizens are blessed with significant oil and gas reserves and the subject area of the San Felipe Salt Dome is no exception. The area is also fortunate to have deep, economic uranium sands on its flanks. All In-Situ Recovery operations have stringent state and federal safety protocols, environmental controls, remediation oversight, and financial requirements for regulatory compliance. The time is right because uranium prices have risen 233% in the last 5 years and millions of dollars will be spent on the project.

MDC
- **Another Fact:** Uranium-recovery production is more related to oil & gas production than to uranium "mining" of near surface uranium ore. Both produce fluids, the former consisting of hydrocarbons, the latter of dissolved uranium.

I2M
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Katy, Texas

Myths and Facts (Continued)

MDC **Myth:** The ISR project will have a negative impact on the quality of life in the Brookshire area.

Fact: The quality of life could be improved considerably in the Brookshire area based on the new jobs, increased revenues, taxes paid, royalties distributed, and surface-owner payments, all while supporting an energy source that is mitigating the effects of climate change on the environment, human health, and local quality of life.

BH **Myth:** The ISR operation will disrupt livestock and other agricultural operations in the area.

Fact: Agricultural operations in the area can be managed with little interference. Surface payments as discussed in the proposed I2M surface lease will address any potential interference or loss of income. Temporary fences would define withdrawal areas until remediation is complete and approved by the TCEQ.

BH **Myth:** Noise and air pollution will become problematic in the operations area.

Fact: Drill rigs and trucks will access the site from the south, if possible, to reduce traffic and exhaust fumes. The operation of the production wellfield areas will be off limits to the general public as in any industrial operation. There would be periods of little or no traffic.

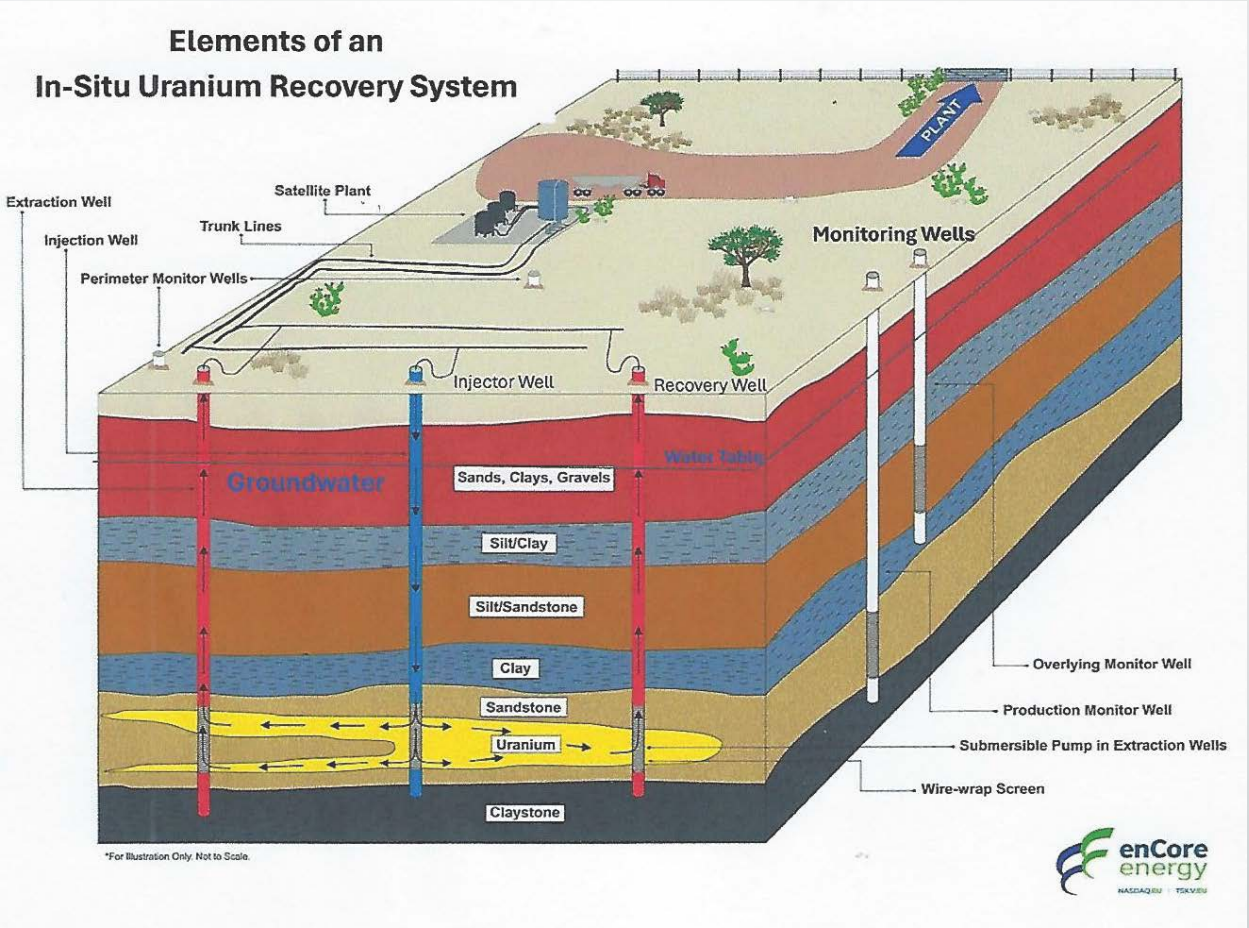
(Handoff to Campbell)

In-Situ Recovery of Uranium

- In-situ uranium recovery in Texas involves drilling many closely spaced injection and recovery wells. The process of removing the uranium from the sands involves injecting water and O2, CO2, and HTH (sample compound used in swimming pools to control bacteria scaling). H2O2 may be used instead of O2. H2O2 breaks down in water to water and O2.

The model of one of the major uranium producers in Texas is a fair representation of what systems the Brookshire Uranium Project would have:

1. Injection-Well: Recovery Well Systems
2. Surrounding Monitoring Wells Completed in Sands Above and Below Uranium Ore
3. Clay & Silt Intervals Between Ore Sands and the Shallow Water-Table Aquifers.



A 5-Spot production site showing trunk lines transmitting uranium fluids for processing.

The I2M Corporation (Texas)

Uranium Processing

Raw Resin

Satellite Resin Plant
Maybe Built as Mobile Plant

In the initial stages of in-situ uranium production, I2M would build a mobile satellite resin plant, and then later build a yellowcake processing plant, assuming uranium reserves justify the expansion.

Yellowcake Ready for Shipment

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Katy, Texas

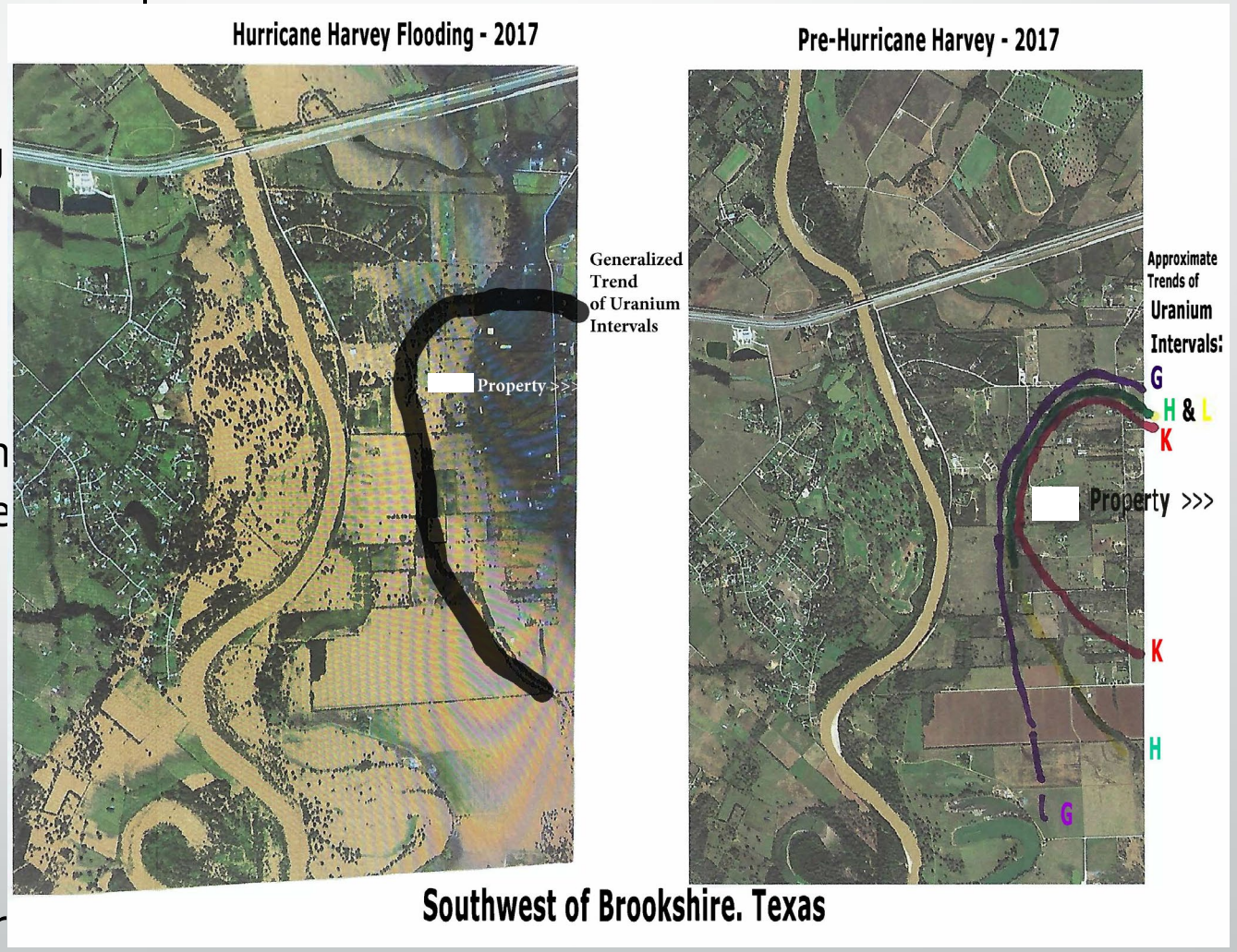
Weather-Loading in I2M Systems Design

- Texas citizens are well familiar with flooding as the subject area has occasionally experienced a hurricane or tropical storm, Harvey for example:

- I2M preparations for such weather conditions would be stipulated during the permitting process to ensure flood-protection measures were in place.

- Such measures are of common design considerations for oil & gas wells, sewage facilities, dams, canals, and other infrastructure potentially exposed to such conditions.

- Even at peak of flooding, some fields drained quickly (see photo & green fields). Depended on height of river bank and other barriers, artificial and natural.



Weather-Loading in I2M Systems Design (Continued)

- ISR systems typically operated near farmhouses for limited time.
- Withdrawal Areas are fenced behind the ring of monitoring wells.

Typical Normal ISR Operation

Recovery Well with Submersible Pump and Electrical Cord

Typical Winterized and Cattle-Proof Coverings of Injection and Recovery Wells with buried piping.

Weather-Loading in I2M Systems Design (Continued)

- The typical resin-loading facility could be mounted on trucks as part of the system design.
- The installation design of uranium in-situ recovery wells, like oil & gas wells, would accommodate possible flooding impacts by cementing-in the protective surface casing, and associated casing would be so sealed and/or raised above an anticipated flood level to prevent contamination of the wells by flood waters. In any event, operations would be designed to be shut down during any flooding. The systems would be inherently designed to be sealed at the surface to avoid flood damage.
- Then as part of the remediation process, all surface PVC casing would be removed. Any temporary processing plants would be mobile and designed to allow removal of all critical equipment and supplies out of any flooded areas, if necessary.
- Therefore, there would be no risk of public-water contamination of Bessie Bayou or surrounding fields by the local in-situ uranium recovery operations, as recommended by the I2M Corporation personnel.

Typical Provisions in a Mineral-Lease Agreement

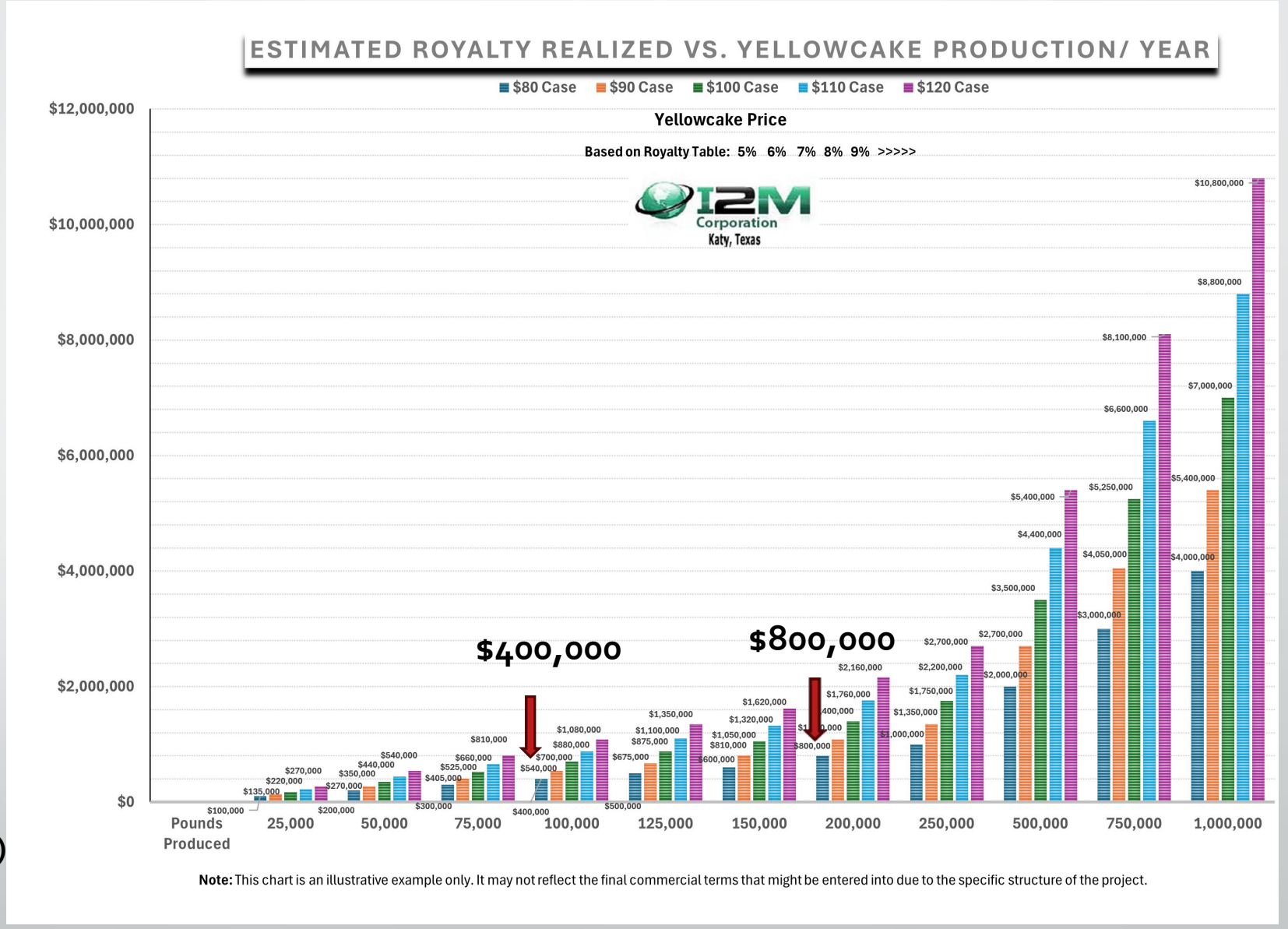
Royalties Based on:

- Uranium Production Rate: Lbs. /Year.
- Uranium Price at Sale
- And Keyed to Royalty %.

Possibilities for Total Reserves:

- If 5 million Lbs. Sold:
  ~ $20 million in royalties,
- If 10 million Lbs. Sold:
  ~ $40 million in royalties.

Note: Based on $80 case (@5%)



Note: This chart is an illustrative example only. It may not reflect the final commercial terms that might be entered into due to the specific structure of the project.

The I2M Corporation (Texas)
Katy, Texas

Who is the I2M Corporation ?

Who is looking after the interests of the mineral and surface owners in the midst of an in-situ uranium recovery operation, aside for the TCEQ and TRRC and other regulators?

ANSWER: **It's the I2M management team!**

- The team was formed out of the I2M Consulting, LLC group., an environmental & mining firm.
- Not composed of personnel of the typical uranium company, although the management personnel have been employed by major uranium mining and oil & gas companies in the 1960's through early 1980's and in the team's early years as professional hydrogeologists and geologists working on environmental projects and as expert witnesses.
- Based on the team's interest in nuclear power as it has always been a way to begin to mitigate the serious threat of climate change.
- I2M personnel are especially well suited to conduct in-situ uranium recovery activities as licensed professional environmental geologists and hydrogeologists, which contrasts with mining engineering methods applied in destructive open-pit mining operations of years past.
- This claim is based on the team's previous experience (confirmed in their related publications) and combined with the team's abilities to conduct hydrogeological activities as required by in-situ uranium recovery operations.

Who is the I2M Corporation ? (Continued)

- Permitting and adherence to sound regulatory requirements have been an integral, hands-on part of their professional activities over many decades in I2M's work and confirmed in their publications over the past 50 years. For details on the management team, see the biographies published in the abstract of this presentation in the *Houston Geological Society Bulletin* (September 2024).

Primary Conclusions of the I2M's Management Team

1. In-situ uranium recovery (ISR) operations are among the least invasive and least impactful energy industries in Texas.* Further, oil & gas operations are far more potentially damaging, consume large volumes of water resources, and can reveal on-going hazards of leaking methane (CH_4, etc.) and hydrogen sulfide (H_2S), and

2. ISR operation is a plumbing process that has little impact on: A) the surface where access areas for drill rigs and ground piping can be easily remediated after operations cease on particular production areas, and B) on the shallow groundwater where, in the subject area, mineralized zones occur in deep sands that are naturally unsuitable as a source of drinking water or for agricultural use.

* This includes wind and solar installations that are recently showing their shortcomings. See the I2M Web Portal on subjects.

This is the Rest of the Real Story ….

As a Contribution to the Members of the Houston Geological Society:

- Many of you have just learned about uranium exploration and development in Texas.
- Now that you know that uranium deposits occur beyond South Texas and that many are associated with salt dome-associated structures, we encourage you to go forth and put some effort into finding more areas that might have similar economic uranium deposits as indicated by groundwater samples, oil & gas geophysical logs, etc.
- Further, most oil & gas wells don't log the SP/Resistivity above 1,000 feet. By not doing so, many uranium deposits are going unrecognized. Many of the South Texas deposits were discovered in 1960's and 1970s using oil & gas well logs that just happened to be logged above 1,000 feet. So, encourage your oil & gas management to start logging above 1,000 feet. Brookshire is just one.
- Most Importantly: If you are retired or an independent geologist, you could earn a position with, and an accommodation from, the I2M Corporation if you bring us data of any type that leads to the discovery of a uranium deposit in Texas or elsewhere.
- I2M has substantial funding and (as you have learned tonight) the ability and connections to develop uranium prospects.
- The U.S. needs uranium so get out there and find more uranium deposits in Texas. We of the I2M Corporation are convinced that they are out there !

I2M
The I2M Corporation (Texas)
Katy, Texas

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The Brookshire Uranium Deposit…. and Others?

QUESTIONS ?