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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application by Sacramento Natural Gas Storage, LLC for a Certificate of Public Convenience and Necessity for Construction and Operation of Natural Gas Storage Facilities and Requests for Related Determinations	Application No. 07-04-013 (filed April 9, 2007)

NOTICE OF EX PARTE COMMUNICATION

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Dated: February 24, 2010

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application by Sacramento Natural Gas Storage, LLC for a Certificate of Public Convenience and Necessity for Construction and Operation of Natural Gas Storage Facilities and Requests for Related Determinations	Application No. 07-04-013 (filed April 9, 2007)

NOTICE OF EX PARTE COMMUNICATION

Pursuant to Rule 8.3 of the California Utilities Commission's Rules of Practice and Procedure, Sacramento Natural Gas Storage, LLC ("SNGS") files this notice of ex parte communication. As required by rule 8.3(a), this notice includes the following information:

(1) On February 24, 2010 the undersigned transmitted a letter addressed to Carol Brown, the Chief of Staff for Commission President Michael R. Peevey at the California Public Utilities Commission in San Francisco;

(2) The letter addresses the assessment by a representative of the Avondale Glen Elder Neighborhood Association ("AGENA") of the geologic characteristics of the natural gas reservoir structure that SNGS proposes to utilize for natural gas storage, which assessment was reported by AGENA to have been discussed at an

ex parte meeting between representatives of AGENA and Carol Brown on January 28, 2010; and

(3) A copy of the letter is attached hereto.

Respectfully submitted,

_____/s/_____
ALFRED F. JAHNS

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Attorney for Sacramento Natural Gas Storage, LLC

Dated: February 24, 2010

ATTACHMENT
TO
NOTICE OF EX PARTE COMMUNICATION

ALFRED F. JAHNS
Attorney At Law

February 24, 2010

Sent by Federal Express

Carol Brown
California Public Utilities Commission
505 Van Ness Avenue, Fifth Floor
San Francisco, CA 94102-3214

Re: A.07-04-013

Dear Ms. Brown:

In the meeting that the Avondale Glen Elder Neighborhood Association ("AGENA") had with you concerning this proceeding on January 28, 2010, AGENA representative Dr. John O. Robertson discussed his assessment of the geologic characteristics of the natural gas reservoir that Sacramento Natural Gas Storage ("SNGS") proposes to utilize for a natural gas storage facility.[1] In light of the apparent reliance of AGENA on Dr. Robertson's assessment in support of AGENA's assertion that "this reservoir is unfit for gas storage,"[2] SNGS is writing to call your attention to the substantial demonstration in the record of this proceeding of the gross unreliability of Dr. Robertson's assessment. Rather than providing useful information and perspective to the Commission and the public concerning the SNGS project, Dr. Robertson's assessment is grounded on misstatements of fact and unwarranted speculation.

While recognizing that the Commission generally does not apply technical rules of evidence in the hearings it conducts, SNGS does think it worth considering that the blatant errors and mischaracterizations of fact contained in Robertson's testimony and comments in this proceeding are so egregious that his assessments likely would either be excluded or stricken from the record in a state or federal judicial proceeding.[3]

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[1] Notice of Notice of Ex Parte Communications by Avondale Glen Elder Neighborhood Association filed and served on February 2, 2010, at pp. 1 – 2.
[2] *Id.* at p. 2.
[3] See *Kumho Tire Co., Ltd v. Carmichael* (1999) 526 US 137, 152; *Sacramento – San Joaquin Drainage Dist. ex rel. State Reclamation Board v. Reed* (1963) 215 Cal. App. 2d 60, 68.

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To provide some immediate sense of the unreliability of Robertson's assessment, SNGS notes that his glaring mistakes of fact in the record of this proceeding include:

- Robertson's assertion that "gas has a much higher viscosity than water or oil."[4]
- Robertson's identification of the pressure gradient of water to be 62.4 psi/ft (pounds per square inch per foot) rather than the correct value of 0.43 psi/ft (which resulted in his calculating the force required to push a 250 foot column of water to be more than 144 times greater than the correct value).[5]
- Robertson's reliance on a treatise entitled "Oil and Gas Production from Carbonate Rocks" to derive his estimate of gas recovery rates from the Florin Sand formation,[6] which does not contain any carbonate rocks.

A. Robertson's Rebuttal Testimony

Dr. Robertson's fundamental mischaracterizations of the geology of the Florin Gas Field first surfaced in his rebuttal testimony submitted in the evidentiary hearing portion of this proceeding, upon which AGENA relied in attempting to challenge the boundary delineation of the Florin Gas Field presented by SNGS. Through its reply testimony, SNGS demonstrated that numerous methodological, conceptual, and calculation errors were included in Robertson's testimony, rendering that testimony essentially unreliable. Following is an overview of the problems that SNGS revealed with Robertson's rebuttal testimony.

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[4] Direct Testimony of John O. Robertson (AGENA-21), at p. 5.

[5] Letter dated June 20, 2009 from John O. Robertson, Jr., Ph.D., Earth Engineering, Inc. to Michael Rosauer, California Public Utilities Commission ("Robertson Comments"), submitted as Attachment A to the Letter dated June 22, 2009 from Tina A. Thomas to Michael Rosauer on behalf of the Avondale Glen Elder Neighborhood Association.

[6] *Id.*

1. Mischaracterization of the Depth of the Productive Gas Sands

Robertson asserted that the surface boundaries of the Florin Field are supposedly 2.5 times larger than SNGS' experts delineated because the field's gas sands supposedly had "very poor vertical permeability," and the productive zone of those sands was supposedly only 10 feet thick. (AGENA-21 at pp. 4-5.) Robertson argued that SNGS expert John Matthews (who conducted only a preliminary evaluation of the field), was incorrect in determining that the field's gas sands are 25 feet thick:

> [Mr. Matthew's] use of a 25 foot thickness does not reflect the reality that there is not a 25 foot thickness of clean gas sand in any of the seven drilled wells is further supported by the fact that no well was perforated 25 feet and that the average length of perforation was only 10 feet for the five producing wells. If he had used the actual average thickness of the five producing wells, he would have decreased the thickness of the reservoir to 10 feet and increased the footprint by a factor of 2.5. (*Id.*)

SNGS completely refuted Robertson's testimony regarding the supposed 10-foot depth of the gas sands. First, SNGS showed that Robertson's attempt to correlate the depth of the productive gas sands with the depth of the well perforations is a fallacy. Bruce Palmer — a highly qualified petroleum engineer who has performed reservoir modeling throughout the world — explained that Robertson's argument:

> fail[ed] to take into consideration the common industry practice to perforate wells at the upper reaches of the reservoir in order to minimize water production (e.g. water coning). It is well known that substantial gas volumes can be produced from below the perforations where, as in the case of the Florin field, the gas sands are thick and there is good vertical communication throughout the field.

(SNGS-27 at pp. 18-19, Response to Question 79.) Palmer also explained that "[v]ertical communication within the Florin field allows wells to drain volumes below the 10 foot perforated interval." (*Id.* at p. 19, Response to Question 80.)

Eric Hadsell, an experienced petroleum engineer, agreed with Palmer that it is common practice to perforate only the top of a reservoir "to minimize the effect of water encroachment." (SNGS-23 at p. 3, Response to Question 13.) Hadsell also testified that well resistivity logs show that the average depth of the Florin field's gas sands is 31 feet, rather than the 10 feet urged by Robertson.[7] Hadsell explained that "[r]esistivity logs measure the electrical resistivity of an interval; shale and porous rock with high salt water saturations are less resistive than rock with high gas or oil saturations." (SNGS-23 at p. 2, Response to Question 12.) He then detailed the reservoir height (i.e., depth of the productive gas sands) based on the resistivity logs for each of the five Florin field wells that produced gas, and concluded that, according to those logs, the average depth of the gas sands is 31 feet. (*Id.*)

2. Mischaracterization of Vertical Permeability

SNGS also demonstrated the lack of any merit in Robertson's assertion that "shale stringers" interfere with gas flow within the reservoir. In his rebuttal testimony, Robertson offered the following assessment:

> [T]he Florin zone is not one homogenous zone with uniform horizontal and vertical permeability as used in the Ryder Scott Company computer model and John Matthews' volumetric calculations. The well logs show that within this zone, within the layers of sand and shale, there is very poor vertical permeability as a result of the layers of shale.

(AGENA-21 at p. 4.) SNGS' witnesses fully refuted this assertion. In particular, Ryder Scott's chief geologist, George Dames, explained that the Florin field has three layers, or "intervals," ("A" through "C"), which were formed by the original deposit of "stacked channel sands."[8]

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[7] Robertson had access to those logs because SNGS produced them to AGENA in response to its discovery requests. Mr. Robertson also testified that he reviewed well log data for the 7 wells drilled into the Florin field. (AGENA-21 at p. 4.)

[8] It should be noted that Dames did not agree that the logs showed the presence of shale stringers; he stated that the logs showed "that the intervals between these higher quality sands are not shales but lower quality sand and silts."

(SNGS-20 at p. 4, Response to Question 21.) Dames further explained that all five wells drilled into the Florin field have a common gas/water contact (i.e., the gas/water contact was documented at a common elevation), even though the contact sometimes was measured in different intervals. (*Id.* at p. 5.) For example, Dames stated that the gas/water contact for Union Florin #4 was measured in interval "A," but the contact for the Union Florin #1 was seen in the "C" interval. (*Id.*) Dames summed up the significance of this common gas/water contact across all three intervals as follows:

> A common contact generally indicates that all the sand members are in vertical communication and can be produced through perforations in the uppermost part of the sand only. The operators' practice of completing only in the uppermost part of the sand in this field indicates they believed the zones were in vertical communication. The subsequent behavior of the wells confirms that the zones are in communication. Dr. Robertson's proposal to restrict the reservoir thickness to only the perforated interval is contrary to common industry practice. (*Id.*)

Dames explained that pressure measurements also undermined Robertson's assertion regarding the field's supposed lack of vertical communication. Specifically, Dames stated that "the pressure behavior of the three wells mentioned [P&G Florin #1, and Union Florin Nos. 1 & 2] indicate they are in communication despite being completed in different sand layers." (Id. at p. 6, Response to Question 23.)

Finally, Dames noted that logs for the Venada Lindsey well "clearly demonstrate" vertical communication across all of the field's intervals. (*Id.* at p. 5, Response to Question 22.) The well was logged in 1992, years after gas production from the other wells had ceased due to water intrusion. (*Id.*) The well encountered a 100 foot section of the "A" sand interval located at approximately the same depth (-3728 TVDSS) as the field's original gas/water contract. (*Id.*) Although the logs showed that the "sand was swept by water," Dames observed "a strong gas signature on the Sonic log to a depth of -3792." (*Id.*) Dames testified that these log responses

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(SNGS-20, Response to Question 21.) This nuance is immaterial, however, to his analysis regarding the vertical

collectively show that the gas originally held in those deep sands had previously been drained by wells drilled in the 1980's, and that this drainage occurred despite "the presence of a low reservoir quality zone" above these deep gas sands. (*Id.*) Drainage of the gas in these deep sands by wells drilled in the 1980's (despite the presence of a low quality zone above it), provided clear proof "that Dr. Robertson's conclusion that there is poor vertical communication between the layers in the Florin reservoir is incorrect." (*Id.*) Mr. Dames summarized his critique of Robertson's opinions as follows:

> [Dr. Robertson's] assertion that the footprint of Florin Field must be substantially larger than that depicted in Ryder Scott's work is based on a faulty understanding of the nature of the hydrocarbon trap in Florin. ... Dr. Robertson's assertion that vertical permeability is limited within the reservoir is not supported by the well logs [or by the] field performance. Dr. Robertson has asserted that the field's extents must be greater but has not reconciled that statement with the known field limits as demonstrated by well log and seismic data. (*Id.* at p. 6, Response to Question 25.)

Hadsell agreed that the relative shale content of the field could be discerned from the gamma-ray logs. (SNGS-23 at pp. 2-3, Response to Question 12.) He further explained that the well logs revealed the presence of shale stringers, but did "*not* show the lateral continuity needed for the stringers to act as a barrier to vertical gas movement." (*Id.* at p. 3, Response to Question 14.) (Emphasis in original.)

Finally, Palmer explained that his work in developing Ryder Scott's computer model of the Florin Field confirmed that the field's "shale stringers" do not impede vertical permeability:

> Ryder Scott's modeling analysis did not reveal the existence of shale barriers that would impede gas flow below the field's cap rock. Our history-matched model analysis demonstrated that it is unlikely that there are any barriers extending across the entire field that would limit vertical flow to the top 10 feet of the interval. Our dynamic model showed good vertical permeability. Stated differently, our modeling work fairly ruled out this basis upon

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communication between the zones.

which Dr. Robertson seeks to expand the field's surface boundary "footprint."

(SNGS-27 at p. 15, Response to Question 67.)

3. Flawed Displacement Theory

Robertson asserted that SNGS did not account for a supposed horizontal displacement and also miscalculated the volume of gas and water produced from the Florin field, and that, as a result of these asserted errors, SNGS underestimated the size of the "footprint" needed to accommodate gas SNGS will inject into the reservoir. (AGENA-21 at pp. 5-8.) SNGS' experts showed that these assertions by Robertson rest on two erroneous premises.

In support of his horizontal displacement theory, Robertson cited a 1972 book by Robert Mannon, entitled "Oil and Gas Production from Carbonate Rocks," which provides gas recovery rates ranging from 14-40 percent. (AGENA-21 at p. 5.) Based on the low recovery rates listed in Mannon's book, Robertson asserted that the 63 percent recovery factor Ryder Scott calculated was "exceptionally high for a water drive reservoir." (*Id.* at p 7.) Mannon explained, however, that his book applies only to oil reservoirs, or reservoirs that contain both oil and gas, not to dry gas reservoirs like the Florin field. (SNGS-25 at p. 4, Response to Question 12.) Mannon stated that any petroleum engineer licensed with the state of California should know that his "book does not provide recovery factors for gas reservoirs like the Florin Field," because information demonstrating that the Florin Field contains no carbonates is readily available on the website maintained by the California Department of Oil, Gas, and Geothermal Resources. (*Id.* at p. 4, Response To Questions 15-17.) In addition, Mannon confirmed that a 63 percent recovery factor was reasonable for the Florin field. (*Id.*, Response to Question 18.) Ryder Scott supported the reasonableness of its 63 percent recovery factor by citing a petroleum engineering handbook, which lists 50-70 percent as typical for reservoirs such as the Florin field. (SNGS-27 at p. 17, Response To Question 74.) Hadsell testified that a 92 percent recovery rate was documented for another Sacramento reservoir. (SNGS-23 at p. 3, Response to Question 15.)

The other half of Robertson's displacement theory rests on his mischaracterization of the viscosity of gas. Specifically, Robertson testified that a "reason for these low recovery rates is that gas has a much higher viscosity than oil or water and so when one injects gas, one should anticipate a 20 to 30% vertical coverage when gas displaces water and not 100%." (AGENA-21 at p. 5.) Again, Robertson was demonstrably wrong. Ryder Scott cited two highly-credible authorities, which both establish that gas has a much *lower* viscosity than oil or water. (SNGS-27 at pp. 16-17, Response to Question 72.) Robertson's mischaracterization of this fundamental scientific concept calls into question not just his displacement theory, but the entirety of his testimony.

4. Mischaracterization Of Ryder Scott's History Match Analysis

Robertson challenged Ryder Scott's computer model of the Florin field (and by extension, the field boundaries it helped develop) because the model supposedly relied on production data from one well log only: Union Oil Florin #2. (AGENA-21 at p. 5.) Mr. Robertson is incorrect. As Bruce Palmer explained, Ryder Scott used production data for Union Florin #2 for an "initial first pass assessment of the field behavior," but that its final modeling work "used data from all five wells for which production history is available." (SNGS-27 at p. 15, Response to Question 68.) He explained that data for the Union Florin #2 was used for the initial analysis "because it is the only well in the field that has measured shut-in bottom hole pressures (in addition to production volumes and flowing well head pressures)." (*Id.*) Mr. Palmer elaborated on this iterative process as follows:

> In our initial independent assessment, we decided to build a radial one-well segment simulation model instead of using analytical equations to better determine the effect of the influx of water into the field. This segment model was able to reasonably match observed shut in bottom hole pressure measurements, water production rates, and flowing well head pressures for the Union Florin #2 well. This initial modeling work supported two conclusions: (1) the Florin field is a partial water drive gas reservoir (water is migrating into the reservoir from an aquifer,

> providing pressure support); and (2) a history-matched full field simulation model would be needed to reasonably predict the field behavior under gas storage conditions. These are the only results we relied upon from the one-well segment simulation model. Dr. Robertson seems to believe that the segment model is the basis of our subsequent modeling work. It is not. Our subsequent history matched full field model was developed using all of the historical wells in the field and their respective measured gas rates, water rates, and flowing well head pressures.

(*Id.* at p. 15, Response to Question 69.) Ryder Scott also responded to Robertson's inaccurate characterization of history matching as "adjusting the output so that it reflects the production of a well." (AGENA-21 at p. 6.) As Palmer explained, Robertson's statement that history matching consists of adjusting output "reflects a misunderstanding of fundamental reservoir modeling processes." (SNGS-27 at p. 12, Response to Question 64.) Palmer explained the history matching process as follows:

> History matching is not "adjusting output." We followed standard engineering procedures whereby input parameters (e.g., such as permeability, porosity, and relative permeability) are adjusted within reasonable bounds in order for the model's calculated output values (e.g., such as reservoir pressure and water flow rates) to reasonably represent observed field behavior. We disagree that there is either insufficient data or inappropriate mathematical assumptions, and the history match that was achieved with our Florin model supports this. (*Id.* at pp. 12-13.)

5. Additional Significant Errors

Ryder Scott exposed several additional significant methodological and calculation errors in Robertson's testimony. First, Robertson argued that SNGS' had "incorrectly estimated the volume of reservoir voidage and [so] underestimated the footprint that would be created from injection of the volume of gas and water that was produced." (AGENA-21 at p. 4. Robertson's argument fails because the calculations on which it is based are erroneous.

Robertson testified that "a total of 6.6 MMCF [6,600,000] voidage (gas plus water) under reservoir conditions" was produced from the Florin field, including "the DOGGR value of 1.13 MMB [1,130,000] water." (*Id.* at p. 7.) Ryder Scott's Bruce Palmer explained that the DOGGR website lists the cumulative water produced from the field as 141,344 barrels, not 1,130,000 barrels, as asserted by Mr. Robertson. (SNGS-27 at p. 14, Response to Question 65.) Palmer further explained that (1) under Ryder Scott's computer model, the volume of gas produced is approximately 62,880,000 cubic feet, or 11,200,000 reservoir barrels, rather than the 6,500,000 calculated by Robertson, and (2) that Ryder Scott's model showed that approximately 105,900 reservoir barrels of water were produced, not the inflated figure Mr. Robertson listed. (*Id.*, at p. 5, Response to Question 18.) In sum, Ryder Scott showed that produced water could not have had a substantial effect on voidage, because only 1 percent of the voidage volume is attributable to water. (*Id.* at pp. 5-6; *see also* SNGS-23 at pp. 5-6, Response to Question 19 (Reply Testimony of Eric Hadsell confirming that water comprised only 1.1 percent of the total volume of fluids produced).)

Second, Robertson accused SNGS' experts (Ryder Scott and John Matthews) of miscalculating the amount of gas produced from the Florin Field, and asserted that their figures on the subject were different. In fact, Robertson misquoted Ryder Scott and John Matthews, and the figures listed on the DOGGR website. Specifically, Robertson asserted that the DOGGR website listed 8.69 MMSCF as the amount of gas produced. (AGENA-21 at p. 3.) In fact, the production data listed on DOGGR's website totals 7.9 BCF. (SNGS-27 at p. 13, Response to Question 65; SNGS-23 at p. 4, Response to Question 17.)[9] Robertson also asserted that "Ryder Scott's model used a produced gas value of 8.14 MMSCF . . . while John Matthews' computations showed 8.8 MMSCF gas production." (AGENA-21 at p. 3.) Bruce Palmer countered by testifying that Ryder Scott and Mr. Matthews both used the *same* production total of 8.28 BSCF. (SNGS-27 at pp. 13-14, Response to Question 65.) Palmer also explained that

[9] Robertson's unit designations were also incorrect. 1,000 standard cubic feet is abbreviated as 1MSCF; 1,000,000 as 1 MMSCF; and 1,000,000,000 as 1 BSCF. (Hadsell Reply Testimony, Response to Question 17 fn. 1.)

Ryder Scott and Mr. Matthews used 8.28 BSCF (instead of the 7.9 BSCF figured established by DOGGR website data), because the DOGGR records omit several months of production data. (*Id.* at p. 13.) When such data are added to the DOGGR records, the production total is 8.28 BCF, not 8.8 MMSCF, as urged by Robertson. (*Id.*)

Finally, Robertson's testimony reflected a fundamental misunderstanding of reservoir pressures. In particular, Robertson stated that "[t]he suggested maximum pressure for the project that they suggest is 1750 psi (SNGS 1161) which is greater than the initial pressure (SNGS 1424) of the reservoir." (AGENA-21 at p. 7.) Ryder Scott's petroleum engineer, Bruce Palmer, explained that Ryder Scott's reports, to which Robertson had access, clearly designated 1750 psi as the maximum flowing bottom hole pressure, not the maximum pressure for the entire reservoir. (SNGS-27 at p. 20, Response to Question 89.) As Palmer explained, a "constraint of 1750 psi maximum flowing bottom hole pressure in the wells will maintain the average reservoir pressure below the initial average reservoir pressure 1668 psi." (*Id.*)

B. Robertson's Comments on the Draft EIR

Robertson's comments on the draft Environmental Impact Report -- replete as they are with factual and analytical errors – follow the pattern of his testimony in the evidentiary hearing process. SNGS first addressed those comments in its letter to Commissioner Simon and ALJ Smith dated July 30, 2009 (the "SNGS Letter"). SNGS summarizes its prior review of two illustrative examples of Robertson's errors in the following discussion.

1. Mischaracterization of Force Required to Overcome Water Pressure

One of the many notable examples of the gross unreliability of Robertson's analysis is found in his calculation that the force that will be required to overcome water pressure to inject gas into the reservoir will be 15,600 psi. (Robertson Comments at p. 8.) Robertson is far off the mark with this calculation, as explained by Ryder Scott.

> In his calculation of the force required to push a 250 foot column of water, Dr. Robertson [c]ites the pressure gradient of water to be 62.4 psi/ft (pounds per square inch per foot). This number is not the pressure gradient of water. We

> suspect that Dr. Robertson has mistakenly used the density of pure water at standard conditions, which is 62.4 pounds per *cubic foot*. Calculating the pressure gradient of pure water from the density of water is a simple unit conversion (converting pounds per cubic foot into pounds per square inch per foot) which gives the value of 0.43 psi/ft. In the widely acknowledged basic standard textbook for petroleum engineering, "Fundamentals of Reservoir Engineering" by L.P. Dake (1978, Elsevier), Dr. Dake states on page 4 of Chapter 1 that the pressure gradient of pure water has the value of 0.4335 psi/ft (0.45 psi/ft is typically used for brine). By Dr. Robertson's reckoning, the pressure requirement now becomes 0.4335 psi/ft x 250 ft = **108 psi, which is much less than 15,600 psi**.

(Letter dated July 7, 2009 from Ryder Scott Company, L.P. to SNGS, submitted as Attachment 2 to the SNGS Letter, at p. 7 (italics in original; bold added).)

2. Mischaracterization of Stratigraphic Thickening as Faulting

In identifying a normal fault within the Florin Sand formation, Robertson has raised the specter of a pathway for gas migration from the reservoir. This is another example of his many errors of interpretation of the available geologic data. As explained by Ryder Scott:

> Dr. Robertson has mistakenly identified the stratigraphic thickening observed in the P&G Florin #2 as a fault. As illustrated in the attached Figure 1, wells that cross normal faults exhibit thinner section, not thicker section. More importantly, normal faults are distinguished from stratigraphic variation by "missing section". Part of the stratigraphic section will not be recorded on the log of a well crossing a fault. As an example, on Figure 1, the brown layer would not be observed on the log of Well B, it would be "faulted-out".

(*Id.* at p. 2.) Mannon also addressed Robertson's misinterpretation of the available stratigraphic data.

> Dr. Robertson has mistakenly identified the stratigraphic thickening observed in P&G Florin #2 as a fault. Thickness variations in rocks occur naturally due to differences in the depositional environment and post-depositional compaction. Dr. Robertson's reference to a 35 foot normal fault is puzzling. He appears to attribute the existence of an additional section in P&G Florin #2 to his stated 35 foot normal fault intersecting the wellbore of P&G Florin #2. Wells intersected by normal faults exhibit a thinning or loss of section rather than a gain in section as

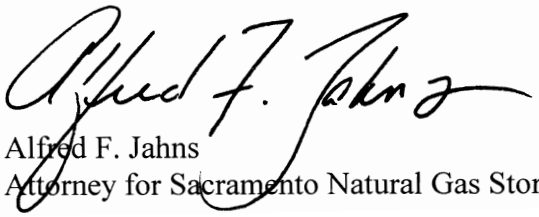
> Dr. Robertson states. In the event that Dr. Robertson was referring instead to a reverse fault intersecting P&G Florin #2, that would cause a thickening of section. A reverse fault repeats a layer of rock and results in a "thickened" or "repeated" section, but there is no indication of a repeated section in P&G Florin #2.
>
> Also in Sec 2a, Dr. Robertson makes reference to his 35 foot normal fault when he states: *It should also be noted that the gas/water contact zones are different on each side of this fault.*
>
> It appears that Dr. Robertson by this statement is referring to the fact that the gas/water contact in P&G Florin #2 was at a higher level than the gas/water contacts of the other Florin wells. The higher gas/water contact in P&G Florin #2 is due to the fact that the well was drilled and logged in late 1983 or approximately two and one-half years after the other wells in the field had started production. The ensuing water influx into the reservoir during that two and one half year interval served to raise the gas/water level in the reservoir to the higher level as indicated by the log of the P&G Florin #2.

(Letter dated July 28, 2009 from Robert W. Mannon to SNGS, submitted as Attachment 3 to the SNGS Letter, at p. 1.)

C. <u>Conclusion</u>

The numerous methodological, conceptual, and calculation errors included in Robertson's testimony and comments demonstrate that his assessment of the geologic characteristics of the Florin Gas Field, and his corresponding opinion of the suitability of that geologic structure to serve as a natural gas storage facility, should be given no substantial weight in this proceeding. Far from assisting the Commission in its consideration of the SNGS Application, the input of Robertson has introduced confusion and misdirection into the proceeding record.

Very truly yours,



Alfred F. Jahns
Attorney for Sacramento Natural Gas Storage, LLC

cc: Commissioner Simon
Administrative Law Judge Smith
Eric Chiang
Jason Reiger

CERTIFICATE OF SERVICE

I hereby certify that I have this day served by electronic mail to each person listed on the attached service list, and by U.S. Mail to the Presiding Commissioner, in accordance with Rules 1.9, 1.10 and 8.3 of the Commission's Rules of Practice and Procedure, the **NOTICE OF EX PARTE COMMUNICATION** submitted on behalf of Sacramento Natural Gas Storage, LLC for electronic filing in proceeding A.07-04-013 on February 24, 2010**.**

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Dated February 24, 2010, at Sacramento, California.

_____/s/_____

Alfred F. Jahns

CPUC Home

CALIFORNIA PUBLIC UTILITIES COMMISSION
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LIST NAME: LIST
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