

February 13, 2017  
Project No. 2015.0171

Mr. Jim Bennett, CHG  
County of San Diego  
Planning and Development Services  
5510 Overland Avenue  
San Diego, CA 92123

**MONTHLY GROUNDWATER MONITORING REPORT – JANUARY 2017**  
**TULE WIND CONSTRUCTION PROJECT**  
**EAST SAN DIEGO COUNTY, CALIFORNIA**

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On behalf of Avangrid Renewables, LLC (Avangrid), Geo-Logic Associates (GLA) is pleased to provide this letter presenting January 2017 daily water level data and weekly flowmeter readings from project construction-related wells (production wells 6, 6a, and 8, and piezometer PZ-1) on Rough Acres Ranch. In accordance with the requirements established in the County of San Diego Planning and Development Services in the Major Use Permit 3300 09-019, weekly groundwater production data must be recorded from wells 6, 6a and 8, and daily water level data measured in the piezometer (PZ-1) and in wells 6 and 8. This report presents a summary of the collected data obtained beginning on January 4 when the project recommenced following the New Years holiday through January 31, 2017; no measurements were obtained on January 2 and 3, or from January 18 to 30, 2017 when there were no construction activities.

Following initial training by GLA on water level and flowmeter protocols for the Tule Wind construction project, daily water levels and weekly flowmeter readings are being obtained by Carol Brady with LG Equipment. Additionally, wells 6, 8, 8a and PZ-1 are each equipped with a pressure transducer to measure and record water level data, which can be uploaded to corroborate the manual measurements throughout the construction program. Well 6a is a non-community public water supply well, supplying water to Rough Acres Ranch, and a pressure transducer cannot be inserted into this well; collection of water levels in this well is not required.

Weekly Flow Meter Readings. Flowmeter readings at each well are recorded on field forms, provide in Attachment 1. Based on the flow meter readings obtained during the January 2017 period, the following water volumes were pumped, and stored or applied:

### January 2017 Water Production Totals

Well	Gallons Pumped	Acre-Feet Pumped (rounded)
Well 6	531,900	1.63
Well 6a	360,700	1.11
Well 8	431,671	1.32
<b>Project Monthly Total</b>		<b>4.06</b>

Note: Total volumes represent water pumped to storage (lake or tanks)

Since the start of the project in December 2016, the total volume of water pumped is 10.74 acre feet; approximately 2.51 acre-feet from well 8 and the balance from wells 6 and 6a.

Daily Water Level Data. During the January 2017 period, water levels were measured manually in Wells 6, 8, and PZ-1 each construction day and recorded on field forms (Attachment A). However, the pressure transducer in Well 8, at a depth of about 240 feet, prevented collection of water level data during most of the month, when the water level dropped during well pumping. In lieu of measurements from Well 8, Ms. Brady measured water levels in Well 8a located 286 feet east of Well 8. Table 1 presents a summary of the manual measurements obtained during the month.

### CLOSING

This monthly report pertains to the Avangrid Tule Wind Project. It may not be appropriate for other projects or for other sites. If you have any questions, please contact me.

Sincerely,  
Geo-Logic Associates



Sarah J. Battelle, CHG 609  
Principal Geologist

### Attachments:

Table 1 – Manual Water Level Measurements

Attachment A - Groundwater Production Weekly Flowmeter Readings

**Table 1**  
**Manual Water Level Measurements**  
**Tule Wind Project Monitoring Wells**

Well Information	Well			
	6*	PZ-1	8*	8a
<b>Depth below TOC:</b>				
11/18/2016	30.68	31.30	242.90	30.70
12/6/2016	106.50	30.00	156.10	30.00
12/7/2016	105.10	31.90	212.35	31.90
12/8/2016	117.10	31.20	>240	31.20
12/9/2016	123.80	33.90	>240	33.90
12/12/2016	122.30	32.20	>240	35.30
12/13/2016	125.80	32.30	>240	35.70
12/14/2016	129.40	32.40	>240	37.80
12/15/2016	128.90	32.30	>240	38.00
12/16/2016	120.30	NA	>240	NA
12/19/2016	48.50	32.30	>240	36.00
12/20/2016	NA	32.30	>240	37.30
1/4/2017	37.60	32.45	>240	31.50
1/5/2017	71.60	32.50	>240	36.00
1/6/2017	78.60	32.35	>240	35.90
1/7/2017	103.80	32.50	>240	36.50
1/9/2017	77.80	32.40	>240	34.60
1/10/2017	74.70	32.40	>240	33.30
1/11/2017	99.40	32.40	>240	33.10
1/12/2017	66.20	32.45	>240	35.10
1/16/2017	33.10	32.30	44.70	32.40
1/17/2017	118.70	32.40	>240	34.50
1/18/2017	33.80	32.40	>240	36.60
1/30/2017	38.20	31.70	25.70	32.70
1/31/2017	88.00	31.70	>240	35.80

Notes:

\*Production well - Water level measurements are not static levels.

NA - Water level could not be measured.

ATTACHMENT A

Groundwater Flowmeter Summary

Groundwater Production Weekly Flowmeter Readings

GROUNDWATER PRODUCTION SUMMARY						
	<b>Piezometer PZ-1</b>					
Date	Depth to Water					
11/18/2016	31.30		Production Summary		Total Acre Foot	
12/20/2016	32.30		WELL 6/6A	2,683,065	8.234013	
1/31/2017	31.60		WELL 8	817,609	2.509146	
			TOTAL	3,500,674	10.74315942	
Well Location:	WELL 6					
Date	Meter Reading	Date	Meter Reading	Total Gallons	Depth to Water	Comments
11/18/2016	664,935	12/20/2016	1,987,900	1,322,965	30.68	This Well feeds the Lake and
12/20/2016	1,987,900	1/31/2017	2,519,800	531,900	35.8	the 3 towers at well 6
				-		
				-		The Lake currently holds
			-	-		1 million gallons of water
			-	-		for use at a later date
			-	-		
<b>TOTAL</b>				<b>1,854,865</b>		

Well Location:	WELL 6A	Production Portion				
Date	Meter Reading	Date	Meter Reading	Total Gallons	Depth to Water	Comments
12/5/2016	4,335,200	12/20/2016	4,802,700	467,500	31.05	This meter is located at the one tower labeled Rough Acres
12/20/2016	4,802,700	1/31/2017	5,163,400	360,700		
				-		
			-	-		
			-	-		
<b>TOTAL</b>				<b>828,200</b>		
Well Location:	WELL 8	Cubic Feet				
Date	Meter Reading	Date	Meter Reading	Total Gallons	Depth to Water	Comments
11/18/2016	1,054	12/20/2016	52,650	385,938	242.9	This Well feeds the 3 towers at well 8
12/20/2016	52,650	1/31/2017	110,360	431,671		
						This well has a blockage at 240ft
			-	-		
			-	-		
<b>TOTAL</b>				<b>817,609</b>		

GROUNDWATER PRODUCTION  
WEEKLY FLOWMETER RECORD SHEET

Date	Piezometer PZ-1	Piezometer 8A
	Depth to Water	Depth to Water
12/20/2016	32.30	37.30
1/4/2017	32.45	31.50
1/5/2017	32.50	36.00
1/6/2017	32.35	35.90
1/7/2017	32.50	36.50

Total Gallons	Total Daily Average
697,080	139,415.92
Total Acre Foot	2.139256

Well Location: WELL 6						
Date	Time	Meter Reading	Total Gallons	Average Daily Use	Depth to Water	Comments
12/20/2016		1,987,900	-		30.68	
1/4/2017		2,421,500	433,600			
1/5/2017		2,426,700	5,200			
1/6/2017		2,432,400	5,700			
1/7/2017		2,444,800	12,400			
<b>Total for week</b>			<b>456,900</b>	<b>65,271.43</b>		

Well Location: WELL 6 A						
Date	Time	Meter Reading	Total Gallons	Average Daily Use	Depth to Water	Comments
12/20/2017		31,284,500	-		31.05	This pump is currently not working
1/4/2017						
1/5/2017						
1/6/2017						
1/7/2017						
<b>Total for week</b>			<b>-</b>	<b>-</b>		

Well Location: Rough Acres						
Date	Time	Meter Reading	Total Gallons	Average Daily Use	Well 6A	Comments
12/20/2016		4,802,700	-			
1/4/2017		4,814,400	11,700			
1/5/2017		4,840,000	25,600			
1/6/2017		4,873,300	33,300			
1/7/2017		4,895,000	21,700			
<b>Total for week</b>			<b>92,300</b>	<b>13,185.71</b>		

Ranch Use

Well Location: WELL 8						
Date	Time	Meter Reading	Total Gallons	Average Daily Use	Depth to Water	Comments
12/20/2016		52,650	-		242.9	
1/4/2017		58,230	41,738			
1/5/2017		63,010	35,754			
1/6/2017		64,850	13,763			
1/7/2017		72,420	56,624			
<b>Total for week</b>			<b>147,880</b>	<b>21,125.66</b>		

GROUNDWATER PRODUCTION  
WEEKLY FLOWMETER RECORD SHEET

Date	Piezometer P8-1	Piezometer 8A
	Depth to Water	Depth to Water
1/7/2017	32.50	36.60
1/9/2017	32.40	34.60
1/10/2017	32.40	33.30
1/11/2017	32.40	33.10
1/12/2017	32.45	35.10
1/13/2017	Rain	

Production Summary		Total Acre Foot
WELL 6/6A	118,600	0.363970
WELL 8	82,130	0.252049
<b>TOTAL</b>	<b>200,730</b>	<b>0.616018162</b>

Well Location: WELL 6

Date	Time	Meter Reading	Total Gallons	Average Daily Use	Depth to Water	Comments
1/7/2017		2,444,800	-		103.8	This Well feeds the Lake and
1/9/2017		2,449,500	4,700		77.8	the 3 towers at well 6
1/10/2017		2,460,100	10,600		74.7	
1/11/2017		2,472,700	12,600		99.4	The Lake currently holds
1/12/2017		2,476,300	3,600		66.2	1 million gallons of water
1/13/2017	Rain					for use at a later date
<b>Total for week</b>			<b>31,500</b>	<b>4,500.00</b>		

Well Location: 6A/Production Portion

Date	Time	Meter Reading	Total Gallons	Average Daily Use	Depth to Water	Comments
1/7/2017		4,895,000	-			This meter is locted at the tower
1/9/2017		4,921,400	26,400			For Tule wind project only.
1/10/2017		4,936,000	14,600			
1/11/2017		4,951,800	15,800			
1/12/2017		4,982,100	30,300			
1/13/2017	Rain					
<b>Total for week</b>			<b>87,100</b>	<b>12,442.86</b>		

Well Location: WELL 8

Date	Time	Cubic Feet		Average Daily Use	Depth to Water	Comments
		Meter Reading	Total Gallons			
1/7/2017		72,420	-		242.9	This Well feeds 3 towers
1/9/2017		73,800	10,322			
1/10/2017		75,050	9,350			
1/11/2017		77,460	18,027			
1/12/2017		81,600	30,967			
1/13/2017		83,400	13,464			
<b>Total for week</b>			<b>82,130</b>	<b>11,732.91</b>		



GROUNDWATER PRODUCTION  
WEEKLY FLOWMETER RECORD SHEET

	Piezometer PZ-1	Piezometer 8A
Date	Depth to Water	Depth to Water
1/12/2017	32.45	35.10
1/16/2017	32.30	32.40
1/17/2017	32.40	34.50
1/18/2017	32.40	36.60
1/30/2017	31.70	32.70
1/31/2017	31.70	35.80

Production Summary		Total Acre Foot
WELL 6/6A	224,800	0.689885
WELL 8	201,661	0.618873
<b>TOTAL</b>	<b>426,461</b>	<b>1.308758404</b>

Well Location: WELL 6

Date	Time	Meter Reading	Total Gallons	Average Daily Use	Depth to Water	Comments
1/12/2017		2,476,300	-		66.2	This Well feeds the Lake and
1/16/2017		2,488,400	12,100		33.1	the 3 towers at well 6
1/17/2017		2,496,700	8,300		118.7	
1/18/2017		2,499,800	3,100		33.8	The Lake currently holds
1/30/2017		2,508,200	8,400		38.2	1 million gallons of water
1/31/2017		2,519,800	11,600		88	for use at a later date
<b>Total for week</b>			<b>43,500</b>	<b>6,214.29</b>		

Well Location: 6A/Production Portion

Date	Time	Meter Reading	Total Gallons	Average Daily Use	Depth to Water	Comments
1/12/2017		4,982,100	-			This meter is locted at the tower
1/16/2017		5,012,200	30,100			For Tule wind project only.
1/17/2017		5,037,900	25,700			
1/18/2017		5,067,000	29,100			
1/27/2017		5,091,100	24,100			
1/30/2017		5,119,200	28,100			
1/31/2017		5,163,400	44,200			
<b>Total for week</b>			<b>181,300</b>	<b>25,900.00</b>		

Well Location: WELL 8

		Cubic Feet				
Date	Time	Meter Reading	Total Gallons	Average Daily Use	Depth to Water	Comments
1/13/2017		83,400	-		242.9	This Well feeds 3 towers
1/16/2017		86,590	23,861			
1/17/2017		91,540	37,026			
1/18/2017		96,232	35,096			
1/27/2017		100,800	34,169			
1/30/2017		107,300	48,620			
1/31/2017		110,360	22,889			
<b>Total for week</b>			<b>201,661</b>	<b>28,808.69</b>		