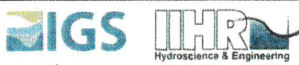


WELL RECORD FORM

PWSID# or PWTS No. _____		PWTS Permit No. _____		GeoSam WNumber (IGS use only) _____																																																																									
Site Identification Property owner <u>Valero Renewable Fuels Company</u> Other ID <u>Well 1R</u> Address <u>One Valero Way</u> City <u>San Antonio</u> Tenant _____ Well depth <u>574</u> ft Date completed <u>9 / 18 / 2018</u>			Drill Method <input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Auger <input type="checkbox"/> Cable <input type="checkbox"/> Other _____																																																																										
Location County <u>O'Brien</u> GPS coordinates (NAD83 datum) <u>43.1743060</u> Latitude <u>95.5045560</u> Longitude <input checked="" type="checkbox"/> Decimal Degrees <input checked="" type="checkbox"/> Degrees, Decimal Minutes <input type="checkbox"/> Degrees, Minutes, Seconds <u>SW</u> 1/4 of the <u>SW</u> 1/4 of Sec <u>31</u> TWP <u>97</u> RNG <u>39</u> <u>E</u> <u>W</u> Show exact location of well in section grid with a dot (.). Sketch map of well location on property.			Hole size 32 inch from <u>0</u> ft to <u>350</u> ft _____ inch from _____ ft to _____ ft 22 inch from <u>350</u> ft to <u>574</u> ft _____ inch from _____ ft to _____ ft																																																																										
Sketch map of well location on property: 			Casing or Loop Pipe Record all depth measurements from ground level (GL). Use + for above GL measurements.																																																																										
			<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Size (in)</th> <th>Material</th> <th>Depth Top</th> <th>Depth Bottom</th> <th>Perforated</th> <th>Slotted</th> <th>Screen</th> </tr> </thead> <tbody> <tr> <td>24</td> <td>.500" Steel</td> <td>0</td> <td>350</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/> slot size _____</td> </tr> <tr> <td>14</td> <td>SDR17 ShurGrip</td> <td>0</td> <td>474</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/> slot size _____</td> </tr> <tr> <td>14</td> <td>Stainless Steel</td> <td>474</td> <td>566</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/> slot size <u>.025"</u></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/> slot size _____</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/> slot size _____</td> </tr> </tbody> </table>			Size (in)	Material	Depth Top	Depth Bottom	Perforated	Slotted	Screen	24	.500" Steel	0	350	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____	14	SDR17 ShurGrip	0	474	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____	14	Stainless Steel	474	566	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> slot size <u>.025"</u>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____																														
Size (in)	Material	Depth Top	Depth Bottom	Perforated	Slotted	Screen																																																																							
24	.500" Steel	0	350	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____																																																																							
14	SDR17 ShurGrip	0	474	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____																																																																							
14	Stainless Steel	474	566	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> slot size <u>.025"</u>																																																																							
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____																																																																							
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____																																																																							
			<input checked="" type="checkbox"/> Gravel packed 250 574 amount <u>20 SS</u> variety _____ <input checked="" type="checkbox"/> Seals/packers _____ type _____ <input checked="" type="checkbox"/> Bottom capped with <u>stainless steel plate</u>																																																																										
Formation Log <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>From</th> <th>To</th> <th>Color</th> <th>Hardness</th> <th>Formation description</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>8</td> <td>brown</td> <td>loose</td> <td>Top soil and brown clay</td> </tr> <tr> <td>8</td> <td>20</td> <td>tan</td> <td>loose</td> <td>Fine, medium, coarse sand and fine, medium, coarse gravel and rocks</td> </tr> <tr> <td>20</td> <td>60</td> <td>gray</td> <td>dense</td> <td>Gray clay</td> </tr> <tr> <td>60</td> <td>117</td> <td>gray</td> <td>hard</td> <td>Gray clay with rocks</td> </tr> <tr> <td>117</td> <td>120</td> <td>gray</td> <td>hard</td> <td>Clay with hard rocks</td> </tr> <tr> <td>120</td> <td>175</td> <td>gray</td> <td>hard</td> <td>Gray clay with rocks</td> </tr> <tr> <td>175</td> <td>180</td> <td>tan</td> <td>loose</td> <td>Fine, medium, coarse sand and fine, medium gravel</td> </tr> <tr> <td>180</td> <td>195</td> <td>tan/gray</td> <td>loose</td> <td>Fine, medium, coarse sand and fine, medium gravel with gray clay strips</td> </tr> <tr> <td>195</td> <td>326</td> <td>gray</td> <td>dense</td> <td>Gray clay</td> </tr> <tr> <td>326</td> <td>333</td> <td>tan</td> <td>loose</td> <td>Fine, medium, coarse sand and fine gravel</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>(use additional sheets as needed)</td> </tr> </tbody> </table>			From	To	Color	Hardness	Formation description	0	8	brown	loose	Top soil and brown clay	8	20	tan	loose	Fine, medium, coarse sand and fine, medium, coarse gravel and rocks	20	60	gray	dense	Gray clay	60	117	gray	hard	Gray clay with rocks	117	120	gray	hard	Clay with hard rocks	120	175	gray	hard	Gray clay with rocks	175	180	tan	loose	Fine, medium, coarse sand and fine, medium gravel	180	195	tan/gray	loose	Fine, medium, coarse sand and fine, medium gravel with gray clay strips	195	326	gray	dense	Gray clay	326	333	tan	loose	Fine, medium, coarse sand and fine gravel					(use additional sheets as needed)	Casing Grout Placement method _____ <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Type</th> <th>Depth Top</th> <th>Depth Bottom</th> <th>Amount (vol/wt)</th> </tr> </thead> <tbody> <tr> <td>Bentonite</td> <td>0</td> <td>250</td> <td>10 super sacks</td> </tr> <tr> <td>Cement Grout</td> <td>0</td> <td>320</td> <td></td> </tr> </tbody> </table>			Type	Depth Top	Depth Bottom	Amount (vol/wt)	Bentonite	0	250	10 super sacks	Cement Grout	0	320	
From	To	Color	Hardness	Formation description																																																																									
0	8	brown	loose	Top soil and brown clay																																																																									
8	20	tan	loose	Fine, medium, coarse sand and fine, medium, coarse gravel and rocks																																																																									
20	60	gray	dense	Gray clay																																																																									
60	117	gray	hard	Gray clay with rocks																																																																									
117	120	gray	hard	Clay with hard rocks																																																																									
120	175	gray	hard	Gray clay with rocks																																																																									
175	180	tan	loose	Fine, medium, coarse sand and fine, medium gravel																																																																									
180	195	tan/gray	loose	Fine, medium, coarse sand and fine, medium gravel with gray clay strips																																																																									
195	326	gray	dense	Gray clay																																																																									
326	333	tan	loose	Fine, medium, coarse sand and fine gravel																																																																									
				(use additional sheets as needed)																																																																									
Type	Depth Top	Depth Bottom	Amount (vol/wt)																																																																										
Bentonite	0	250	10 super sacks																																																																										
Cement Grout	0	320																																																																											
Remarks (including depth of lost drilling fluids, materials, or tools) _____ _____			Pump Installation Date <u>10 / 15 / 2018</u> Type of pump <u>Franklin</u> Depth to intake <u>410</u> ft Pump diameter <u>10</u> in Rated capacity <u>550</u> GPM																																																																										
Well Use <input type="checkbox"/> Domestic <input type="checkbox"/> Public supply <input type="checkbox"/> Livestock <input type="checkbox"/> Heat pump <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Irrigation # of borehole(s) _____ <input type="checkbox"/> Monitoring <input type="checkbox"/> Other _____			Water Information Date <u>10 / 16 / 2018</u> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Static Water Level</th> <th>Pumping Water Level</th> <th>Yield</th> <th>Duration</th> </tr> </thead> <tbody> <tr> <td><u>271</u> ft</td> <td><u>293</u> ft</td> <td><u>550</u> GPM</td> <td><u>1.50</u> hrs</td> </tr> </tbody> </table> Water level measurement: <input type="checkbox"/> Sonic <input checked="" type="checkbox"/> Tape <input type="checkbox"/> Airline <input type="checkbox"/> E-line <input type="checkbox"/> Estimate Water yield measurement: <input checked="" type="checkbox"/> Orifice <input type="checkbox"/> Volumetric <input type="checkbox"/> Estimate Main water-supply zone from <u>420</u> ft to <u>576</u> ft below GL			Static Water Level	Pumping Water Level	Yield	Duration	<u>271</u> ft	<u>293</u> ft	<u>550</u> GPM	<u>1.50</u> hrs																																																																
Static Water Level	Pumping Water Level	Yield	Duration																																																																										
<u>271</u> ft	<u>293</u> ft	<u>550</u> GPM	<u>1.50</u> hrs																																																																										
			Well Development <input checked="" type="checkbox"/> Physical explain: <u>Surge block</u> <input checked="" type="checkbox"/> Chemical explain: <u>Double disc surge block with aqua clear PFD</u>																																																																										
			Contractor Company <u>Sargent Drilling</u> Address <u>2016 Industrial Park Road, Carroll, IA 51401</u> Driller <u>Derek Schweitzer</u> Certification no. <u>8338</u>																																																																										



Mail form to Iowa Department of Natural Resources: 502 E. 9th St., Des Moines, IA 50319-0034

Or click here to e-mail form to: well.records@dnr.iowa.gov



DNR Form 542-8170

WELL RECORD FORM

89730

PWSID# or PWTS No. _____		PWTS Permit No. _____		GeoSam WNumber (IGS use only) _____																																																																																																	
Site Identification			Drill Method <input type="checkbox"/> Rotary <input type="checkbox"/> Auger <input type="checkbox"/> Cable <input type="checkbox"/> Other _____																																																																																																		
Property owner <u>Valero Renewable Fuels Company</u> Other ID _____			Hole size																																																																																																		
Address _____ City _____																																																																																																					
Tenant _____			hole size continued _____ inch from _____ ft to _____ ft _____ inch from _____ ft to _____ ft																																																																																																		
Well depth _____ ft Date completed ____/____/____																																																																																																					
Location County _____			Casing or Loop Pipe																																																																																																		
GPS coordinates (NAD83 datum)			Record all depth measurements from ground level (GL). Use + for above GL measurements.																																																																																																		
_____ Latitude _____ Longitude _____			<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Size (in)</th> <th>Material</th> <th>Depth Top</th> <th>Depth Bottom</th> <th>Regrouted</th> <th>Slotted</th> <th>Screen</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/> slot size _____</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/> slot size _____</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/> slot size _____</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/> slot size _____</td> </tr> </tbody> </table>			Size (in)	Material	Depth Top	Depth Bottom	Regrouted	Slotted	Screen					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____																																																													
Size (in)	Material	Depth Top				Depth Bottom	Regrouted	Slotted	Screen																																																																																												
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____																																																																																															
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____																																																																																															
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____																																																																																															
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> slot size _____																																																																																															
<input type="checkbox"/> Decimal Degrees <input type="checkbox"/> Degrees, Decimal Minutes <input type="checkbox"/> Degrees, Minutes, Seconds _____ 1/4 of the _____ 1/4 of the _____ 1/4 of Sec _____ TWP _____ RNG _____ W Show exact location of well in section grid with a dot (•). Sketch map of well location on property.																																																																																																					
			<input type="checkbox"/> Gravel packed amount _____ variety _____ <input type="checkbox"/> Seals/packers type _____ <input type="checkbox"/> Bottom capped with _____																																																																																																		
Formation Log			Casing Grout Placement method _____																																																																																																		
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>From</th> <th>To</th> <th>Color</th> <th>Hardness</th> <th>Formation description</th> </tr> </thead> <tbody> <tr> <td>333</td> <td>340</td> <td>gray.whi</td> <td>hard</td> <td>Gray clay and white shale</td> </tr> <tr> <td>340</td> <td>360</td> <td>gray</td> <td>hard</td> <td>White, brown and gray shale</td> </tr> <tr> <td>360</td> <td>400</td> <td>gray</td> <td>hard</td> <td>Gray shale</td> </tr> <tr> <td>400</td> <td>420</td> <td>gray</td> <td>hard</td> <td>Gray shale with sandstone layers and strips</td> </tr> <tr> <td>420</td> <td>440</td> <td>tan</td> <td>hard</td> <td>Sandstone</td> </tr> <tr> <td>440</td> <td>460</td> <td>tan</td> <td>hard</td> <td>Sandstone with shale strips and layer</td> </tr> <tr> <td>460</td> <td>513</td> <td>tan</td> <td>hard</td> <td>Sandstone</td> </tr> <tr> <td>513</td> <td>518</td> <td>tan</td> <td>hard</td> <td>Shale</td> </tr> <tr> <td>518</td> <td>520</td> <td>tan</td> <td>hard</td> <td>Sandstone</td> </tr> <tr> <td>520</td> <td>540</td> <td>tan</td> <td>hard</td> <td>Sandstone with shale strips</td> </tr> <tr> <td>540</td> <td>576</td> <td>tan</td> <td>hard</td> <td>Sandstone</td> </tr> <tr> <td>576</td> <td>580</td> <td>tan</td> <td>hard</td> <td>Shale and sandstone</td> </tr> <tr> <td>580</td> <td>595</td> <td>tan</td> <td>hard</td> <td>Sandstone with shale strips</td> </tr> <tr> <td>595</td> <td>600</td> <td>tan</td> <td>hard</td> <td>Shale</td> </tr> <tr> <td colspan="5" style="text-align: center;">(use additional sheets as needed)</td> </tr> </tbody> </table>			From	To	Color	Hardness	Formation description	333	340	gray.whi	hard	Gray clay and white shale	340	360	gray	hard	White, brown and gray shale	360	400	gray	hard	Gray shale	400	420	gray	hard	Gray shale with sandstone layers and strips	420	440	tan	hard	Sandstone	440	460	tan	hard	Sandstone with shale strips and layer	460	513	tan	hard	Sandstone	513	518	tan	hard	Shale	518	520	tan	hard	Sandstone	520	540	tan	hard	Sandstone with shale strips	540	576	tan	hard	Sandstone	576	580	tan	hard	Shale and sandstone	580	595	tan	hard	Sandstone with shale strips	595	600	tan	hard	Shale	(use additional sheets as needed)					<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Type</th> <th>Depth Top</th> <th>Depth Bottom</th> <th>Amount (vol/wt)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>			Type	Depth Top	Depth Bottom	Amount (vol/wt)												
From	To	Color	Hardness	Formation description																																																																																																	
333	340	gray.whi	hard	Gray clay and white shale																																																																																																	
340	360	gray	hard	White, brown and gray shale																																																																																																	
360	400	gray	hard	Gray shale																																																																																																	
400	420	gray	hard	Gray shale with sandstone layers and strips																																																																																																	
420	440	tan	hard	Sandstone																																																																																																	
440	460	tan	hard	Sandstone with shale strips and layer																																																																																																	
460	513	tan	hard	Sandstone																																																																																																	
513	518	tan	hard	Shale																																																																																																	
518	520	tan	hard	Sandstone																																																																																																	
520	540	tan	hard	Sandstone with shale strips																																																																																																	
540	576	tan	hard	Sandstone																																																																																																	
576	580	tan	hard	Shale and sandstone																																																																																																	
580	595	tan	hard	Sandstone with shale strips																																																																																																	
595	600	tan	hard	Shale																																																																																																	
(use additional sheets as needed)																																																																																																					
Type	Depth Top	Depth Bottom	Amount (vol/wt)																																																																																																		
Remarks (including depth of lost drilling fluids, materials, or tools)			Pump Installation Date ____/____/____																																																																																																		
			Type of pump _____ Depth to intake _____ ft																																																																																																		
Well Use			Pump diameter _____ in Rated capacity _____ GPM																																																																																																		
			Water Information Date ____/____/____																																																																																																		
<input type="checkbox"/> Domestic <input type="checkbox"/> Public supply <input type="checkbox"/> Livestock <input type="checkbox"/> Heat pump <input type="checkbox"/> Commercial <input type="checkbox"/> Irrigation # of borehole(s) _____ <input type="checkbox"/> Monitoring <input type="checkbox"/> Other _____			<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Static Water Level</th> <th>Pumping Water Level</th> <th>Yield</th> <th>Duration</th> </tr> </thead> <tbody> <tr> <td>_____ ft</td> <td>_____ ft</td> <td>_____ GPM</td> <td>_____ hrs</td> </tr> </tbody> </table>			Static Water Level	Pumping Water Level	Yield	Duration	_____ ft	_____ ft	_____ GPM	_____ hrs																																																																																								
Static Water Level	Pumping Water Level	Yield	Duration																																																																																																		
_____ ft	_____ ft	_____ GPM	_____ hrs																																																																																																		
Contractor			Water level measurement: <input type="checkbox"/> Sonic <input type="checkbox"/> Tape <input type="checkbox"/> Airline <input type="checkbox"/> E-line <input type="checkbox"/> Estimate																																																																																																		
			Water yield measurement: <input type="checkbox"/> Orifice <input type="checkbox"/> Volumetric <input type="checkbox"/> Estimate																																																																																																		
Well Development			Main water-supply zone from _____ ft to _____ ft below GL																																																																																																		
			<input checked="" type="checkbox"/> Physical explain: _____ <input type="checkbox"/> Chemical explain: _____																																																																																																		
Company			Company <u>Sargent Drilling</u>																																																																																																		
			Address <u>2016 Industrial Park Road, Carroll, IA 51401</u>																																																																																																		
Driller			Driller <u>Derek Schweitzer</u> Certification no. <u>8338</u>																																																																																																		



Mail form to Iowa Department of Natural Resources: 502 E. 9th St., Des Moines, IA 50319-0034

Or click here to e-mail form to: well.records@dnr.iowa.gov

Make copies for well contractor, customer, and county health department



DNR Form 542-8170