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Corrective/Preventive Action Request (CPAR)

CA PA

(Check appropriate box to indicate corrective or preventive action)

Initiator: K. Oxholm Corrective Action # 2015-006
 Date: 11/18/2015 Preventive Action # _____ or _____

	Date Due	By/Assigned to	Completed Initials & Date
Investigation	12/9/2015	Christopher LeForce	CAL 12/11/2015
Implementation	12/11/2015	Christopher LeForce	CAL 12/11/2015
Audit			
CAR/PAR closed			

Description of Issue
<p>In areas where pipe was installed by the 2014 Contractor (Over & Under) on ANGP, trench breakers were not installed as designed in numerous locations. A table attached, titled "ANGP Trench Breaker As-built 2014 (Segment 1)", shows the general design locations by station number and the corresponding as-built location if installed. There were both sand trench breakers and bentonite trench breakers on this list. Also there were some trench breakers installed where there was not a designed location.</p>
<p>Work Processes need to be modified or ceased during investigation?: Yes ___ No <u>x</u> If so, specify:</p>
<p>Approved by: <u><i>[Signature]</i></u> Date: <u>12/11/15</u></p>

Investigation Finding
<p>The list titled "ANGP Trench Breaker As-built 2014 (Segment 1)" was reviewed and the locations plotted on a set of design drawings. After talking to field personnel (inspectors), it was determined that some of the locations where trench breakers were designed on paper were omitted because the field conditions warranted them not to be installed. On the other hand there were locations where there was no designed trench breaker, but field conditions warranted one to be installed. There was no documentation of this process.</p>



Vermont Gas

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Recommendations for Corrective / Preventive Action
<p>VGS will investigate the areas where a designed trench breaker was not installed. If field conditions show that one is not needed, then it will be documented as to the reason why not. If one is needed, then one will be scheduled to be installed.</p> <p>While this investigation takes place, VGS Operations will patrol the transmission corridor on a monthly basis, not to exceed 45 days, or after any significant rain event to ensure no erosion occurs due to the lack of a trench breaker. If VGS Operations finds erosion occurring, it will be remediated to ensure the safety of the pipeline.</p>

Action Taken / Verification
<p>Any future re-evaluation and follow-up required? Yes ___ No ___ If so, specify:</p> <p>As required by code, the transmission corridor is continually patrolled multiple times each year by VGS Operations and one of the items that is looked for is erosion areas or potential erosion areas. Anything that is deemed a threat to the pipe will be remediated by VGS Operations.</p> <p>Verified by: _____ Date: _____</p> <p>Was action taken effective? <input type="checkbox"/> Yes <input type="checkbox"/> No If no, new CA/PA number: _____</p> <p>Comments: _____</p>

ANGP Trench Breaker Locations As-Built 2014 (Segment 1)

NOTE: The following approximate stations are the minimum locations for both sand and bentonite trench breakers for Segment 1 (As Built 2014) of the Addison Natural Gas Project. This list was created using information from details #2 and #5 on drawing ANGP-T-G-015 Rev. 1 from the Plan Set titled "Addison Natural Gas Project Transmission Mainline" dated 04-02-15. The Construction Management Team/Inspectors should review actual field conditions and direct the Contractor to install additional trench breakers as necessary to supplement the listed areas.

LEGEND:

	Sand Trench Breaker
	Bentonite Trench Breaker

"Theoretical Station"	Type	As-Built Station	As-Built Type	Comments
NONE	N/A	129+15	SAND	
NONE	N/A	132+62	SAND	
NONE	N/A	144+15	SAND	
NONE	N/A	147+22	SAND	
NONE	N/A	150+10	SAND	
187+75	BENTONITE	NONE	N/A	<i>These are both W. of the Indian Banks crossing, where ANGP parallels Hwy 288, they straddle a low spot in a marshy area</i>
188+50	BENTONITE	188+78	BENTONITE	
NONE	N/A	189+14	SAND	
NONE	N/A	190+10	SAND	
190+55	BENTONITE	190+53	BENTONITE	
193+15	BENTONITE	193+56	BENTONITE	
194+55	SAND	NONE	N/A	
195+80	SAND	NONE	N/A	
197+00	SAND	NONE	N/A	
202+17	SAND	NONE	N/A	

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LEGEND:

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	Bentonite Trench Breaker

"Theoretical Station"	Type	As-Built Station	As-Built Type	Comments
202+95	SAND	NONE	N/A	
211+90	SAND	NONE	N/A	
NONE	N/A	238+79	SAND	
328+10	SAND	327+77	SAND	
328+92	SAND	328+64	SAND	
330+65	SAND	331+22	SAND	
331+40	SAND	331+66	SAND	
343+62	SAND	NONE	N/A	
344+35	SAND	344+50	SAND	
345+08	SAND	345+02	SAND	
347+42	SAND	NONE	N/A	
348+00	SAND	347+80	SAND	
348+60	SAND	NONE	SAND	
348+80	BENTONITE	348+45	BENTONITE	
349+25	BENTONITE	349+52	BENTONITE	

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	Bentonite Trench Breaker

"Theoretical Station"	Type	As-Built Station	As-Built Type	Comments
350+72	BENTONITE	350+72	BENTONITE	
351+06	BENTONITE	351+06	BENTONITE	
367+30	BENTONITE	367+40	BENTONITE	
369+12	BENTONITE	368+72	BENTONITE	
369+47	SAND	NONE	N/A	
370+45	BENTONITE	NONE	N/A	
371+10	BENTONITE	NONE	N/A	
374+22	SAND	NONE	N/A	
375+05	SAND	NONE	N/A	
380+45	SAND	NONE	N/A	
381+40	SAND	NONE	N/A	
380+75	BENTONITE	380+80	BENTONITE	
382+10	BENTONITE	NONE	N/A	
382+60	BENTONITE	NONE	N/A	
384+00	BENTONITE	NONE	N/A	

The PL is parallel w/ a railroad track between the RR and Winmark. Run

This is what I refer to as a rolling wetland with high flow spots. The bentonite was installed @ the edges, but not in the middle.

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	Bentonite Trench Breaker

"Theoretical Station"	Type	As-Built Station	As-Built Type	Comments
384+60	BENTONITE	NONE	N/A	
385+00	BENTONITE	386+12	BENTONITE	
401+49	SAND	NONE	N/A	
403+00	SAND	NONE	N/A	
404+93	SAND	NONE	N/A	
406+42	SAND	NONE	N/A	
407+96	SAND	NONE	N/A	
409+48	SAND	NONE	N/A	
411+00	SAND	NONE	N/A	
429+35	BENTONITE	429+30	BENTONITE	
429+05	BENTONITE	429+43	BENTONITE	
429+50	SAND	NONE	N/A	
430+30	SAND	NONE	N/A	
433+50	SAND	433+53	SAND	
435+00	SAND	NONE	N/A	

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	Sand Trench Breaker
	Bentonite Trench Breaker

"Theoretical Station"	Type	As-Built Station	As-Built Type	Comments
436+90	BENTONITE	436+70	BENTONITE	
NONE	N/A	437+00	BENTONITE	
437+20	BENTONITE	437+19	BENTONITE	
440+50	BENTONITE	440+22	BENTONITE	
440+70	BENTONITE	441+10	BENTONITE	
448+40	BENTONITE	447+75	BENTONITE	
449+30	BENTONITE	449+09	BENTONITE	
459+50	BENTONITE	NONE	N/A	
460+15	BENTONITE	460+09	BENTONITE	
466+05	BENTONITE	466+00	BENTONITE	
466+55	BENTONITE	466+50	BENTONITE	
468+70	BENTONITE	468+62	BENTONITE	
469+30	BENTONITE	469+35	BENTONITE	
506+45	BENTONITE	NONE	N/A	
507+30	BENTONITE	NONE	N/A	

The PLC parallels Redmond Rd

by a drainage ditch under Redmond Rd

wet spots @ edge of golf course

The PLC parallels the golf course

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	Sand Trench Breaker
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"Theoretical Station"	Type	As-Built Station	As-Built Type	Comments
510+25	BENTONITE	509+90	BENTONITE	
511+80	BENTONITE	NONE	N/A	
514+70	BENTONITE	514+89	BENTONITE	<i>parallels golf course</i>
515+50	BENTONITE	515+45	BENTONITE	
540+35	BENTONITE	540+43	BENTONITE	<i>drainage ditch edge of golf course</i>
540+65	BENTONITE	537+60 (STA EQN.)	BENTONITE	
546+30	BENTONITE	546+09	BENTONITE	<i>these saddle Allen Brook</i>
547+35	BENTONITE	547+62	BENTONITE	
548+00	BENTONITE	NONE	N/A	<i>CG drainage ditch flowing to Allen Brook need to confirm with survey TRBKR type</i>
NONE	N/A	549+68	Unk.*	
551+00	BENTONITE	NONE	N/A	<i>@ a drainage ditch flowing to Allen Brook need to confirm with survey TRBKR type</i>
552+60	BENTONITE	553+30	Unk.*	