

BEFORE THE OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF COLORADO

IN THE MATTER OF ALLEGED VIOLATIONS OF THE)	CAUSE NO. 1V
RULES AND REGULATIONS OF THE COLORADO OIL)	
AND GAS CONSERVATION COMMISSION BY OXY)	ORDER NO. 1V-347
USA WTP LP, GARFIELD COUNTY, COLORADO)	

ADMINISTRATIVE ORDER BY CONSENT

(Pursuant to Rule 522.b.(3) of the Rules and Regulations of the
Colorado Oil and Gas Conservation Commission, 2 CCR 404-1)

FINDINGS

1. Prior to July 27, 2007, OXY USA WTP LP, Operator #66571, (hereinafter referred to as "OXY") constructed the OXY 697-09-61 well pad (the "Well Pad"), which is located in the SW¼ SE¼ of Section 9, Township 6 South, Range 97 West, 6th P.M. (refer to Attachment 1). As originally constructed, the Well Pad included an unlined drilling pit, which measured approximately 80 feet long, 50 feet wide and 12 feet deep with a capacity of approximately 4,000 barrels with two feet of freeboard. At various times, the Director ("Director") of the Colorado Oil and Gas Conservation Commission ("Commission" or "COGCC") approved twenty-two (22) Applications for Permit-to-Drill, Form 2s, for various bottomhole locations to be drilled from the Well Pad.

2. On July 27, 2007, OXY spud the Cascade Creek #697-9-60D Well (API No. 05-045-14298) and on September 6, 2007, OXY spud the Cascade Creek #697-09-52B Well (API No. 05-045-14445) (referred to collectively as the "Wells") with both wells drilled and placed on production from the Well Pad.

3. In preparation for additional drilling from the Well Pad, on May 6, 2008, OXY shut-in the Wells, and, subsequently, constructed an extension to the drilling pit, which measured approximately 30 feet long, 20 feet wide, and 10 feet deep with an additional capacity of approximately 800 barrels with two feet of freeboard. After excavating the extension, OXY lined both the original drilling pit and the extended drilling pit with a 36 mil liner underlain with a geo-synthetic layer. On June 11, 2008, OXY temporarily abandoned the Wells by placing subsurface plugs within the wellbores.

4. There are two springs, one located in Section 9 and one located in Section 16, Township 6 South, Range 97 West, 6th P.M., which are located approximately 630 feet southwest and downgrade of the location of the unlined production pit on the Well Pad (refer to Attachment 1). For purposes of this Administrative Order by Consent ("AOC"), the northernmost spring is referred to as the "North Spring" or "N Spring" and the southernmost spring is referred to as the "South Spring". These springs and a number of other smaller ground water seeps discharge from an approximately 1,000 foot long stretch along the eastern bank of the unnamed tributary. The spring waters discharge from the eastern bank of and into an unnamed tributary which, in turn, joins Cascade Canyon in Section 16, Township 6 South, Range 97 West, 6th P.M. (refer to Attachment 1). Impacts to the springs on the eastern bank, the unnamed tributary, and Cascade Canyon are the subject of this AOC.

5. In addition to North and South Springs, there is also an improved spring that supplies water to OXY's private cabin (locally known as Conn Camp (refer to Attachment 2)) which is sometimes used for livestock watering. The improved spring is known locally as Conn Camp Spring and is located in Section 9, Township 6 South, Range 97 West, 6th P.M. Conn Camp Spring discharges from the western bank of and into the unnamed tributary (refer to Attachments 1, 3, and 4). Conn Camp Spring has not been impacted by the releases of exploration and production ("E&P") wastes that are the subject of this AOC.

6. The Well Pad is immediately adjacent to an area that has been designated as sensitive wildlife habitat by the Colorado Division of Wildlife for the benefit of the greater sage grouse.

7. Water produced in association with hydrocarbons ("produced water") and condensate from the Wells were placed in the unlined drilling pit located on the Well Pad – the pit was placed into operation at or around the date of first completion (October 24, 2007). The

extended portion of the original drilling pit on the Well Pad was used as an unpermitted and unlined production pit from the date of well completion until May 6, 2008 when the Wells were shut-in (refer to Attachment 5). Before constructing the pit or discharging produced water into it, OXY did not submit a sensitive area determination to evaluate the potential for ground water impacts.

a. Pre-April 1, 2009 rules (2 CCR 404-1, "Rules" or individually, "Rule"), that were in effect when the production pit on the Well Pad was constructed, required operators of production pits "to make a sensitive area determination . . . to evaluate the potential for impact to ground water and submit [the] data evaluated and analysis used in the determination to the Director" (former Rule 901.e.(2)). The submittal of this information to the Director allowed the COGCC to evaluate whether a proposed production pit would be sited in an area vulnerable to groundwater impact, and, if so, whether special precautions were needed to avoid such an impact.

b. The Rules further required production pits in sensitive areas to be permitted before construction (former Rule 903.a.(1)B.).

c. During this period of time the Rules defined sensitive area as "an area vulnerable to potential significant adverse groundwater impacts, due to factors such as the presence of shallow economically usable groundwater or pathways for communication with deeper economically usable groundwater; proximity to surface water, including lakes, rivers, perennial or intermittent streams, creeks, irrigation canals, and wetlands." 100-Series Rules.

d. The production pit on the Well Pad was located in an area vulnerable to potential significant adverse ground water impacts, and therefore it was located in a sensitive area based on the following criteria:

- i. The production pit was located in close proximity (approximately 630 feet) to the Conn Camp Spring, the North Spring and the South Spring, and these springs are sources of water for an unnamed intermittent tributary to Cascade Canyon, which is a perennial stream.
- ii. Shallow groundwater was impacted by a release of produced water and condensate from a pit, which indicates that pathways for communication between the ground surface and groundwater exist.
- iii. The water discharged at the North and South Springs is shallow economically usable groundwater, which was used by ranchers for watering livestock and by wildlife.
- iv. The water discharged at the Conn Camp Spring is shallow economically usable groundwater, which is used by ranchers for domestic purposes and watering livestock, and by wildlife. Conn Camp Spring was not impacted by this release, but is located approximately 700 feet from and downhill of the Well Pad.

e. The permitting of pits is an essential component of the COGCC regulatory scheme to ensure best management practices are used by operators to protect public health, safety, and welfare and the environment, including soil, waters of the state, and wildlife, from significant adverse environmental, public health, or welfare impacts from E&P waste. If this pit had been permitted, COGCC Staff assert that they would have required OXY to line it and if the pit had been properly lined and maintained releases of produced water and condensate would have been far less likely to occur and the risk of impacts to ground water would have been greatly reduced.

8. On June 16, 2008, OXY notified COGCC Staff of the potential contamination of water discharging from natural springs and entering an unnamed intermittent tributary of upper Cascade Canyon, located in Section 16, Township 6 South, Range 97 West, 6th P.M. Following the notification, OXY immediately initiated mitigation measures by installing two dams (refer to Attachments 6, 7, 8, and 9) to contain all flow from the unnamed tributary. Dam 1 was located downstream of the North Spring in the vicinity of the Conn Camp corral. Dam 2 was located on the unnamed tributary, just upstream of the confluence with Cascade Canyon. Cascade Canyon

drainage showed no evidence of contamination. Piping and pumps were installed and water was pumped to the lined pit on the Well Pad referred to in Finding No. 3.

9. On June 17, 2008, OXY installed a series of hydrocarbon absorbing booms and straw bales in the unnamed tributary and in Cascade Canyon below the confluence with the unnamed tributary. In all, approximately ½-mile of the unnamed tributary was impacted by direct discharge of contaminated ground water.

10. On June 17, 2008, COGCC Staff inspected the impacted springs, surface water, the Well Pad, and production pit. It was observed that condensate was discharging from the North and South Springs (refer to Attachment 11) and the presence of an associated sheen on the water flowing in the unnamed tributary. In addition, hydrocarbon stained soil and rock were observed in the bottom of a portion of the original drilling pit (refer to Attachment 5).

11. On June 18, 2008, at COGCC’s request, OXY constructed two interceptor trenches (referred to as the N Interceptor Trench (refer to Attachment 12), located between the Well Pad and near the North Spring, and the S1 Interceptor Trench (refer to Attachment 13), located between the Well Pad and near the South Spring (refer to Attachment 6)) to restrict the flow of contaminants to the unnamed tributary. COGCC Staff collected water samples from the Conn Camp cabin kitchen faucet, the Conn Camp Spring, and the South Spring. Benzene, toluene, ethylbenzene, and xylenes (referred to collectively as “BTEX”) were not detected in samples from the kitchen faucet in the Conn Camp cabin or spring, however, benzene was detected in the water sample collected from the South Spring at concentrations which exceeded Colorado Department of Public Health and Environment (“CDPHE”) Water Quality Control Commission (“WQCC”) ground water standards implemented by the COGCC in Table 910-1(as it existed at the time of the discharge). It should be noted that the highest benzene concentration of the samples collected at the South Spring tested at 200 times the ground water standard. Toluene and xylenes were detected at levels below the WQCC standards reflected in Table 910-1 as it existed at the time of the discharge. But these levels were above the current WQCC standards for these substances, which had not yet been incorporated into Table 910-1. Concentrations of these constituents subsequently decreased due to OXY’s remediation activities. A summary of the highest results of the analysis of the water sampling is set forth below:

South Spring (sample taken June 17, 2008)		
Contaminant of Concern	Concentration (µg/L)	Table 910-1 Concentration (µg/L) ¹
Benzene	1,000	5
Toluene	1,000	1000
Xylenes (total)	2,700	1,400 - 10,000
M-Xylene & P-Xylene	2,300	N/A
O-Xylene	460	N/A
1,2,4-Trimethylbenzene	130	N/A
1,3,5-Trimethylbenzene	180	N/A

1 Table 910-1 standards as they existed in June 2008

12. On June 19, 2008, OXY replaced existing fencing and installed additional fencing to facilitate movement of cattle to a new grazing area and to restrict access by livestock and wildlife to the contaminated water (refer to Attachments 12, 13, and 14) At COGCC’s request, OXY initiated a tracer study as a method to estimate the amount of time it would take water to travel from the pit on the Well pad to the springs along the unnamed tributary. Fluorescein, a fluorescent dye, was placed in the production pit, however, the dye was not detected at either trench along the springs by subsequent monitoring.

13. On June 19, 2008, COGCC Staff collected water samples from the North Spring, the S1 Interceptor Trench, and the unnamed tributary in the vicinity of the S1 Interceptor Trench. Analytical results indicated that ground water and surface water were impacted by hydrocarbon compounds at concentrations exceeding the Table 910-1 concentration for benzene. It should be noted that the North Spring tested, at a level more than 300 times the ground water standard for benzene at this time, a level more than 15 times the ground water standard for toluene, and a level 1.6 times the ground water standard for xylenes (total) based on the WQCC standards reflected in Table 910-1 as it existed at the time of the discharge. At the time of the discharge, Table 910-1 did not reflect the current WQCC standards for toluene and xylenes (total), and if such standards are used, the exceedences would be greater. Concentrations of these constituents subsequently decreased due to OXY’s remediation activities. Summaries of the analytical results are presented below:

North Spring (sample taken June 19, 2008)

Contaminant of Concern	Concentration (µg/L)	Table 910-1 Concentration (µg/L) ¹
Benzene	1,600	5
Toluene	15,000	1000
Xylenes (total)	16,000	1,400 - 10,000
M-Xylene & P-Xylene	14,000	N/A
O-Xylene	2,000	N/A
Naphthalene	70	N/A
1,2,4-Trimethylbenzene	720	N/A
1,3,5-Trimethylbenzene	810	N/A
2,4-Dimethylphenol	250	N/A
2-Methylnaphthalene	60	N/A
2-Methylphenol	130	N/A
4-Methylphenol	170	N/A

¹ Table 910 standards as they existed in June 2008

Unnamed Tributary at S1 Interceptor Trench (sample taken June 19, 2008)

Contaminant of Concern	Concentration (µg/L)	Table 910-1 Concentration (µg/L)
Benzene	890	5
Toluene	1,700	1000
Xylenes (total)	4,700	1,400 - 10,000
M-Xylene & P-Xylene	3,900	N/A
O-Xylene	750	N/A
Naphthalene	90	N/A
1,2,4-Trimethylbenzene	970	N/A
1,3,5-Trimethylbenzene	930	N/A
2,4-Dimethylphenol	51	N/A
2-Methylnaphthalene	160	N/A
2-Methylphenol	76	N/A
4-Methylphenol	82	N/A

S1 Interceptor Trench (sample taken June 19, 2008)

Contaminant of Concern	Concentration (µg/L)	Table 910-1 Concentration (µg/L)
Benzene	1,800	5
Toluene	3,800	1000
Xylenes (total)	3,900	1,400 - 10,000
M-Xylene & P-Xylene	3,400	N/A
O-Xylene	530	N/A
Naphthalene	9.5	N/A
1,2,4-Trimethylbenzene	180	N/A
1,3,5-Trimethylbenzene	200	N/A
2,4-Dimethylphenol	26	N/A
2-Methylnaphthalene	8	N/A
2-Methylphenol	62	N/A
4-Methylphenol	66	N/A

14. On June 20, 2008, OXY submitted a Form 19, Spill/Release Report, to the COGCC (COGCC Spill Tracking No. 1983098).

15. As was required by Rule 901.e.(4) for the management and remediation of remediation of certain spills and releases, OXY conducted a sensitive area determination utilizing the sensitive area decision tree (Figure 901-1) in its response submitted on July 11, 2008 (see Finding No. 22 below) and determined that the Well Pad is situated on and around a “sensitive area”. The release or releases at issue have chemistry that exceeds some criteria found in Box 1. The production pit on the Well Pad is underlain by a recharge zone for an unconfined aquifer as is evidenced by the contaminant ground water (Box 2), and has a hydraulic conductivity that exceeds 10⁻⁶ cm/second (Box 3). The area is not within a known area classified for domestic use by the CDPHE-WQCC or a local wellhead protection area (Box 4). There are no known domestic water wells within ½-mile or public water supply wells within ¼-mile of the release point (Box 5); however, there is an improved spring (Conn Camp Spring), the discharge of which is captured and piped into a cabin within ½-mile of the release point. Although the depth to average high ground water table from the pit bottom is greater than 20 feet, the release has impacted ground water as is evidenced by the detections of BTEX and hydrocarbons in the North and South Springs and in the intermittent tributary (Box 6).

16. On June 20, 2008, COGCC Staff issued OXY Notice of Alleged Violation (“NOAV”) #200191192 for the Cascade Creek #697-9-60D Well and NOAV #200191194 for the Cascade Creek #697-09-52B Well and its operations at the Well Pad, which impacted waters at the North and South Springs. The NOAVs cited violations of the following COGCC rules:

a. Rule 209., which requires operators to exercise due care in the protection of coal seams and water-bearing formations, with special precautions taken in drilling wells to guard against any loss of artesian water from the stratum in which it occurs and the contamination of fresh water by objectionable water, oil, or gas;

b. Rule 324A.a., which requires operators to take precautions to prevent significant adverse environmental impacts to air, water, soil, or biological resources to the extent necessary to protect public health, safety and welfare and to prevent the unauthorized discharge of oil, gas or E&P waste;

c. Rule 324A.b., which provides that no operator, in the conduct of any oil or gas operation shall perform any act or practice which shall constitute a violation of water quality standards or classifications established by CDPHE-WQCC for waters of the state;

d. Rule 902.a., which required at the time of the discharge that a pit used for E&P shall be constructed and operated to protect waters of the state, and wildlife, from significant adverse environmental, public health, or welfare impacts from E&P waste;

e. Rule 906.a., which provided at the time of the discharge that spills/releases of E&P waste, including produced fluids, shall be controlled and contained immediately upon discovery, and that impacts resulting from spills/releases shall be investigated and cleaned up as soon as practicable;

f. Rule 906.b.(3), which provided at the time of the discharge that spills/releases of any size which impact or threaten to impact any waters of the state shall be verbally reported to the COGCC Director as soon as practicable after discovery;

g. Rule 907.a.(1), which provided at the time of the discharge that operators shall ensure that E&P waste is properly stored, handled, transported, treated, recycled, or disposed to prevent threatened or actual significant adverse environmental impacts to air, water, soil or biological resources or to the extent necessary to ensure compliance with allowable concentration levels in Table 910-1, with consideration to WQCC ground water standards and classifications; and

h. Rule 907.a.(2), which requires that E&P waste management activities shall be conducted, and facilities constructed and operated, to protect the waters of the state from significant adverse environmental impacts from E&P waste.

The NOAVs required OXY, by July 7, 2008, to provide written descriptions of: (1) any pits constructed or used on the Well pad, including size, volume, whether or not the pit was lined, (2) all fluids (water, drilling, completion, and frac fluids, flowback, etc.) placed in the pit, including volumes, dates, etc., and provide haul tickets for all fluids brought from offsite to the pit(s), (3) whether condensate was observed in the pit(s) during flowback or completion; and (4) tanks or other containers that were used at this site to manage fluids and any spills/releases that occurred. Further, OXY was to submit: (1) a Form 27, *Site Investigation and Remediation Workplan*, for COGCC review, and (2) all analytical data collected to date. OXY was also to consult with COGCC and mitigate impacts to the springs, including, (1) fencing impacted surface water to restrict access by livestock and wildlife, and (2) providing a supply of water for drinking and other household use and for watering livestock.

17. COGCC records reveal that the pit on the Well Pad was never permitted for use as a production pit (nor was application made by OXY to permit said pit); consequently, OXY used the pit on the Well Pad to manage produced water from on or around the date of first completion (October 24, 2007) through the date the release was discovered (June 16, 2008), a period of 232 days, without an approved Form 15 pit permit, as COGCC Staff asserts was required by Rule 903.a. (formerly Rule 903.a.(1)B.).

18. On June 25, 2008, OXY conducted a stakeholder's meeting which included local ranchers, COGCC Staff, and OXY Staff, where OXY presented known information regarding the release, the initial water sampling data, and described initial remedial action.

19. On June 25, 2008, COGCC Staff inspected the impacted springs, surface water, the Well Pad and drilling/production pit and pit extension, which had been lined (refer to Attachment 15).

20. On June 28, 2008, OXY identified another impacted spring to the south of the S1 Interceptor Trench and installed another interceptor trench adjacent to that spring (referred to as the S2 Interceptor Trench). The S2 Interceptor Trench was designed and placed in its location to intercept as much of the contaminated ground water as possible prior to the contaminated liquids entering the unnamed tributary to Cascade Canyon.

21. On July 1, 2008, OXY requested, and was granted, an extension to the NOAV abatement deadline, recited in Finding No. 16, from July 7, 2008 until July 11, 2008 for submittal of the required information.

22. On July 11, 2008, OXY submitted a Form 27, *Site Investigation and Remediation Workplan* (a.k.a., COGCC Remediation Project No. 4620) to the COGCC. The workplan, in part, provided the following information:

- a. A description of OXY emergency response operations which were implemented in responding to the discovery of the release;
- b. A description of how OXY proposed to remediate the impacts of the release;
- c. A description of OXY's plan to monitor the impacted media (both ground and surface waters);
- d. OXY's proposal to reclaim impacts caused by construction activities associated with its response to, and investigation of, the release; and
- e. A description of how OXY managed and disposed of the impacted media (both ground and surface waters) from the release.

In addition, analytical reports for samples collected during the emergency response phase of the OXY investigation and remediation were provided.

23. On July 22, 2008, OXY initiated a second tracer study as a method to estimate the amount of time it would take water to travel from the pit on the Well Pad to the springs along the unnamed tributary (refer to Attachment 16). Rhodamine, a fluorescent dye, was placed in the production pit, and was first detected at the N Interceptor Trench on July 25, 2008 with peak concentrations measured on July 29, 2008. The results of the second tracer study indicated that the pit on the Well Pad is hydraulically connected to the springs along the east side of the unnamed tributary to Cascade Canyon, and that the travel time is between three to seven days (approximately 91 to 212 feet per day, or $30,000$ to $70,000 \times 10^{-6}$ cm/second) under those conditions that existed at the time of the study. These results suggest preferential flow through naturally fractured and weathered bedrock.

Rhodamine was also detected in the S2 Interceptor Trench on or about October 1, 2008.

24. Between January 2008 and May 2008, OXY estimated in its *Site Investigation and Remediation Workplan* that it placed approximately 9,650 barrels of produced water and 195 barrels of condensate into the unpermitted and unlined production pit on the Well Pad, and could not provide documentation that it withdrew or removed the produced water or condensate. Volumetric calculations indicate that the amount of fluids placed into the pit is about 2-½ times the original capacity of the pit. This indicates that the fluids were leaking out of the unlined pit and that OXY was disposing of produced water and associated condensate by percolation from the pit. The numbers for produced water and condensate were calculated based on cumulative gas production from the Wells and their associated gas-liquid ratios.

25. OXY has stated that, based on limited access to the Well Pad during inclement weather, the release or releases from the unpermitted, unlined pit occurred sometime between January 2008 and May 2008. Therefore, for the purpose of settling this matter under terms agreed to under this AOC, the parties have agreed to use a violation period of 100 days.

26. Rule 523. specifies a base fine of One Thousand dollars (\$1,000) for each day of violation of Rules 324A.a., 324A.b., 902.a., 903.a., and 907a.(2). Rule 523.a.(3) specifies that “the maximum penalty for any single violation shall not exceed Ten Thousand dollars (\$10,000) regardless of the number of days of such violation,” unless the violation results in significant waste of oil and gas resources, damage to correlative rights, or a significant adverse impact on public health, safety or welfare or the environment.

27. Based on the above facts, COGCC Staff contends that the release or releases of fluids from the produced water pit resulted in a significant adverse impact to the environment. The release or releases of produced water and condensate impacted both ground water and surface water with dissolved and free phase hydrocarbon compounds. In June 2008, at the time of the initial discovery and emergency response activities, the concentrations of benzene detected in water discharging from the South Spring and the North Spring were 1,000 µg/l and 1,600 µg/l, respectively. These benzene concentrations exceeded the ground water standard of 5 µg/l by 200 times at South Spring and by 300 times at North Spring. Concentrations of toluene and total xylenes detected in water discharging from the North Spring also exceeded the ground water standards for these two compounds. In addition, free phase hydrocarbons and hydrocarbon sheen were observed on the water discharging from both South Spring and North Spring. Concentrations of these constituents subsequently decreased due to OXY’s remediation activities.

A number of other smaller ground water seeps and springs along an approximately 1,000 foot long stretch along the eastern bank of the unnamed tributary and the surface water flowing in the unnamed tributary were also impacted by the release or releases from the produced water pit.

The South Spring, North Spring, and the smaller seeps and springs, and surface water were used by both livestock and wildlife and the area had to be fenced to prevent contact with and ingestion of the contaminated water. In all, approximately ½-mile of the unnamed tributary was impacted either by direct discharge of contaminated ground water or by the construction activities associated with the response and mitigation measures conducted by OXY.

28. OXY does not admit liability for any of the alleged Rule violations, and denies that such alleged violations caused a significant adverse impact to the environment. However, OXY agrees to pay the following fines as adjusted pursuant to Finding No. 42, and the COGCC Staff agrees to accept the following fines as adjusted pursuant to Finding No. 42. Both parties agree to do so in order to resolve this matter without the necessity of a contested hearing.

29. For purposes of settling this matter, OXY should not be found in violation of Rule 209 because Rule 209 was not violated here.

30. OXY violated **Rule 324A.a.** because it placed produced water and associated condensate in the unlined production pit on the Well Pad, which failed to contain the fluids which percolated into the underlying bedrock and impacted groundwater, and by so doing, OXY failed to take precautions to prevent significant adverse environmental impacts to air, water, soil, or biological resources to the extent necessary to protect public health, safety and welfare and to prevent the unauthorized discharge of oil, gas or E&P waste. A base fine of One Hundred Thousand dollars (**\$100,000**) has been calculated for the violation of Rule 324A.a.

31. OXY violated **Rule 324A.b.** because it placed produced water and associated condensate in the unlined production pit on the Well Pad, which failed to contain the fluids which percolated into the underlying bedrock and impacted groundwater, and by so doing, OXY performed an oil and gas related act or practice which constituted a violation of the water quality standards or classifications established by CDPHE-WQCC for waters of the state. A base fine of One Hundred Thousand dollars (**\$100,000**) has been calculated for the violation of Rule 324A.b.

32. OXY violated **Rule 902.a.** because it placed produced water and associated condensate in a unlined production pit on the Well Pad, which failed to contain the fluids which percolated into the underlying bedrock and impacted groundwater, and by so doing, OXY failed to

construct and operate an E&P pit to protect waters of the state from significant adverse impacts from E&P waste. A base fine of One Hundred Thousand dollars (**\$100,000**) has been calculated for the violation of Rule 902.a.

33. OXY violated **Rule 903.a.** because it used an unpermitted pit to manage produced water from on or around the date of well completion (October 24, 2007) through the date the release was discovered (June 16, 2008). A base fine of One Hundred Thousand dollars (**\$100,000**) has been calculated for the violation of Rule 903.a.

34. For purposes of settling this matter, OXY should not be found in violation of Rule 906.a. because OXY demonstrated a prompt, effective and prudent response to the release.

35. For purposes of settling this matter, OXY should not be found in violation of Rule 906.b.(3) because OXY demonstrated a prompt, effective and prudent response to the release.

36. For purposes of settling this matter, OXY should not be found in violation of Rule 907.a.(1) because the violation of Rule 907.a.(1) will be combined with the violation of Rule 907.a.(2).

37. OXY violated **Rule 907.a.(2)** because it placed produced water and associated condensate in a unlined production pit on the Well Pad, which failed to contain the fluids which percolated into the underlying bedrock and impacted groundwater, and by so doing, OXY failed to conduct and operate E&P waste management activities in a manner which ensured the protection of the waters of the state from significant adverse environmental impacts from E&P waste. A base fine of One Hundred Thousand dollars (**\$100,000**) has been calculated for the violation of Rule 907.a.(2).

38. COGCC Staff specifically reserve the right to proceed as to alleged violations of Rules 906.a., 906.b.(3), and 907.a.(1), if this matter is not resolved by this AOC. Nothing within this AOC should be construed as the COGCC Staff waiving their right to prosecute any violation set forth in this AOC in the event that this AOC is not executed by the parties and approved by the Commission.

39. In summary, OXY should be found in violation of Rules 324A.a., 324A.b., 902.a., 903.a., and 907a.(2) as described herein, for failing to properly permit, construct, maintain, and repair the pit on the Well pad so that E&P waste was not released, and base fines levied as compiled in the table below:

<i>Rule Violation</i>	<i>Days of Violation</i>	<i>Fine Amount/Violation</i>
324A.a.	100	\$100,000
324A.b.	100	\$100,000
902.a.	100	\$100,000
903.a.	100	\$100,000
907.a.(2)	100	\$100,000
Total Maximum Allowable Fine		\$500,000

40. Because the base fine for these violations is set at \$1000 per day of violation, the aggravating factors set forth in Rule 523.d. are not applicable by their terms.

41. Pursuant to Rule 523.d, the following mitigating factors were applied to reduce the total base fine amount by twenty two percent (22%):

(1) Twelve percent (12%) under Rule 523.d.(2), because OXY demonstrated a prompt, effective and prudent response to the violations, and Rule 523.d.(3), because OXY cooperated with the Commission. OXY’s response to the release was comprehensive and effective in limiting the impact of the release, including reducing the concentrations of constituents towards meeting applicable WQCC ground water standards. Within two hours of the report of the release, OXY mobilized equipment, constructed two dams, and sampled the impacted area and the downstream drainages to ensure that the contamination did not reach the down-gradient creek. OXY promptly constructed berms, trenches, and bypasses, as well as the placement of booms, to further confine the release. OXY constantly monitored and sampled numerous points in and around the release areas, and hauled and disposed of contaminated fluids. Further, OXY

voluntarily performed an ORC-Advance chemical oxidation treatment to aid in the breakdown of the released hydrocarbons; and

(2) Ten percent (10%) under Rule 523.d.(6), because OXY incurred approximately \$1,500,000 in costs for its remediation efforts to date, and these costs substantially exceed any economic benefit from the violations. Further, OXY has spent another \$8,000,000 to decrease the risk of future ground or surface water impacts from its operations in this area by reducing the number of the pits it uses to manage fluids in the area from approximately 23 to one fresh water pond and ten treated produced water ponds and is now utilizing onsite produced water storage tanks with automatic well shut-in technology should the storage tanks reach capacity.

42. The parties agree to a fine of Three Hundred Ninety Thousand dollars (\$390,000), which takes into consideration a 22% fine reduction for mitigating factors.

43. Payment of the fine pursuant to this AOC does not relieve the operator from its obligations to complete abatement or corrective actions set forth in the NOAV, as may be amended or modified by Staff.

44. OXY should execute this AOC no later than 14 days after the date it is executed by Staff for recommendation to the Commission for expedited approval. Fines may increase if this matter is not recommended for expedited approval.

45. OXY, or its successors or assigns, should be required to remain responsible for complying with this AOC, notwithstanding any subsequent sale of property.

46. Pursuant to Article IX, of the "Memorandum of Agreement" between the Water Quality Control Division ("WQCD") and the COGCC, adopted February 15, 2000, COGCC Staff conferred with WQCD enforcement staff in determining the monetary penalty against OXY for violations of WQCC standards for surface waters. WQCD indicated it agrees with the fine and the terms of this AOC and will not pursue any additional penalty.

47. OXY agrees to the findings of this AOC only for the purpose of expeditiously resolving the matter without a contested hearing. Notwithstanding the above, OXY does not admit to any of the factual or legal determinations made by the Commission herein, and fully reserves its right to contest same in any future action or proceeding other than a proceeding to enforce this AOC.

ORDER

NOW, THEREFORE, IT IS ORDERED, that OXY USA WTP LP shall be found in violation of the Rules set forth in Finding No. 39, above, for oil and gas operations at the OXY 697-09-61 well pad, which is located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 9, Township 6 South, Range 97 West, 6th P.M., for those acts alleged in this AOC.

IT IS FURTHER ORDERED, that OXY USA WTP LP shall be assessed a total adjusted fine of Three Hundred Ninety Thousand dollars (\$390,000) for the Rule violations set forth in Finding No. 39, above, which shall be payable within thirty (30) days of the date the order is approved by the Commission.

IT IS FURTHER ORDERED, that this Administrative Order by Consent does not relieve the operator from undertaking and completing abatement or corrective actions that may be required by the Notice of Alleged Violation described in Finding No. 16, above, or any amendments or modifications thereto specified by Staff. In addition by May 1, 2010, the operator must submit for COGCC approval an addendum to the existing Form 27, *Site Investigation and Remediation Workplan* (a.k.a. COGCC Remediation Project No. 4620) that includes a schedule for the submittal of quarterly written progress reports of ongoing remediation and monitoring of the impacts to the Conn Camp area, the first of which shall be submitted on July 15, 2010.

IT IS FURTHER ORDERED, that the operator shall execute this Administrative Order by Consent no later than fourteen (14) days after the date it is executed by the Staff for recommendation of expedited approval by the Commission.

IT IS FURTHER ORDERED, that under the State Administrative Procedure Act the Commission considers this order to be final agency action for purposes of judicial review within thirty (30) days after the date this order is mailed by the Commission.

IT IS FURTHER ORDERED, that an application for reconsideration by the Commission of this order is not required prior to the filing for judicial review.

IT IS FURTHER ORDERED, that the provisions contained in the above order shall become effective forthwith.

IT IS FURTHER ORDERED, that the Commission expressly reserves its right after notice and hearing, to alter, amend, or repeal any and/or all of the above orders.

RECOMMENDED this 22nd day of April, 2010.

OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF COLORADO

By 
Rob Willis, Enforcement Officer

Dated at Suite 801
1120 Lincoln St.
Denver, Colorado 80203
April 19, 2010

AGREED TO AND ACCEPTED this 21st day of April, 2010.

OXY USA WTP LP

By 
Signature of Authorized Company Representative

DK/BBM

WILLIAM B. ROBT
Print Signatory Name

VICE-PRESIDENT, MID-CONTINENT
Title

=====

This cause came on for hearing before the Commission at 9:00 a.m. on April 29, 2010, in Suite 801, The Chancery Building, 1120 Lincoln Street, Denver, Colorado, for the approval of this Administrative Order by Consent.

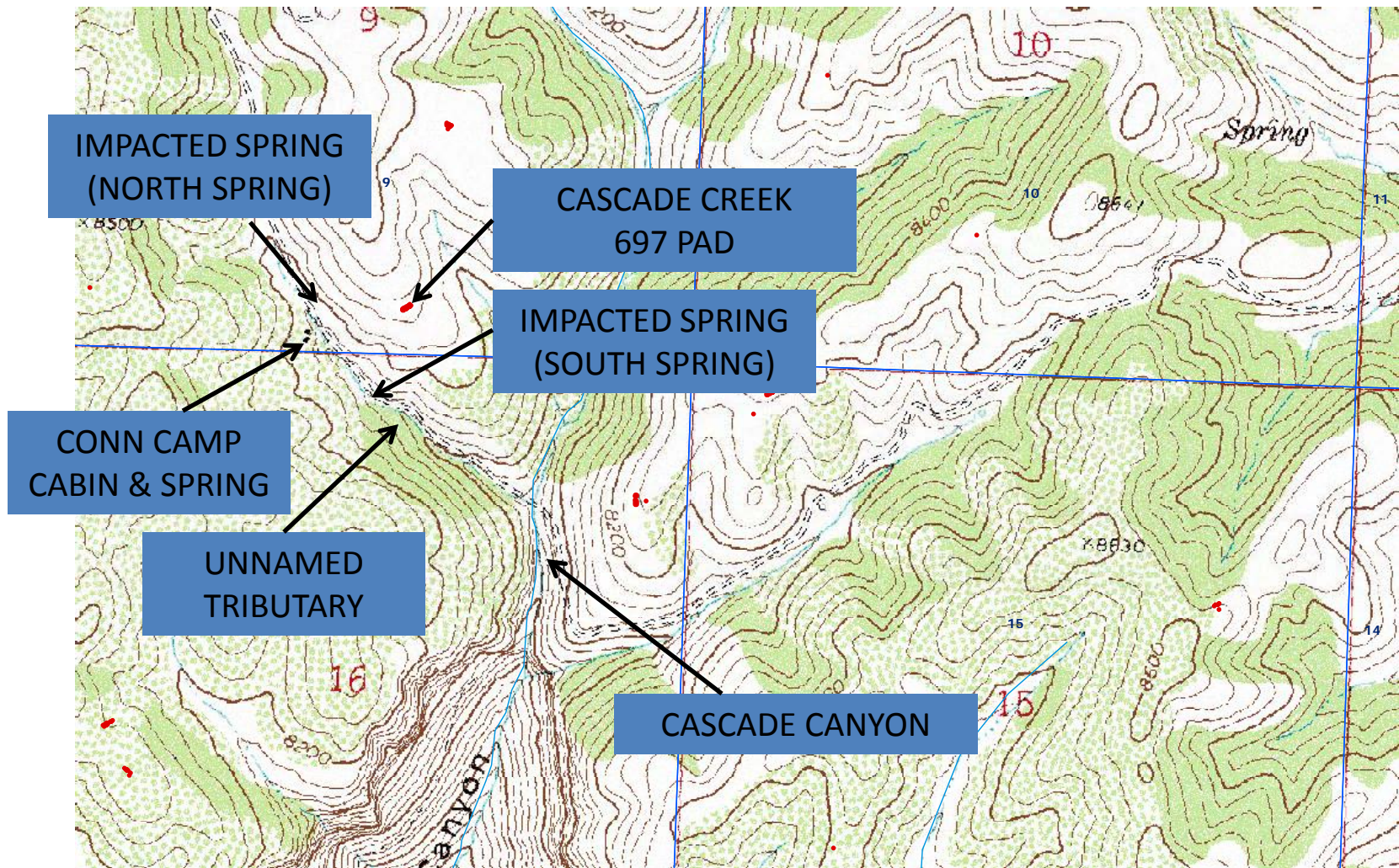
ENTERED this 20th day of May, 2010, as of April 29, 2010.

OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF COLORADO

By 
Carol Harmon, Secretary

Dated at Suite 801
1120 Lincoln Street
Denver, Colorado 80203
May 20, 2010

ATTACHMENT 1
OXY CASCADE CREEK 697 PAD
CASCADE CREEK 697-9-60D (API 05-045-14298)
CASCADE CREEK 697-9-52B (API 05-045-14445)
SWSE SECTION 9 T6S R97W

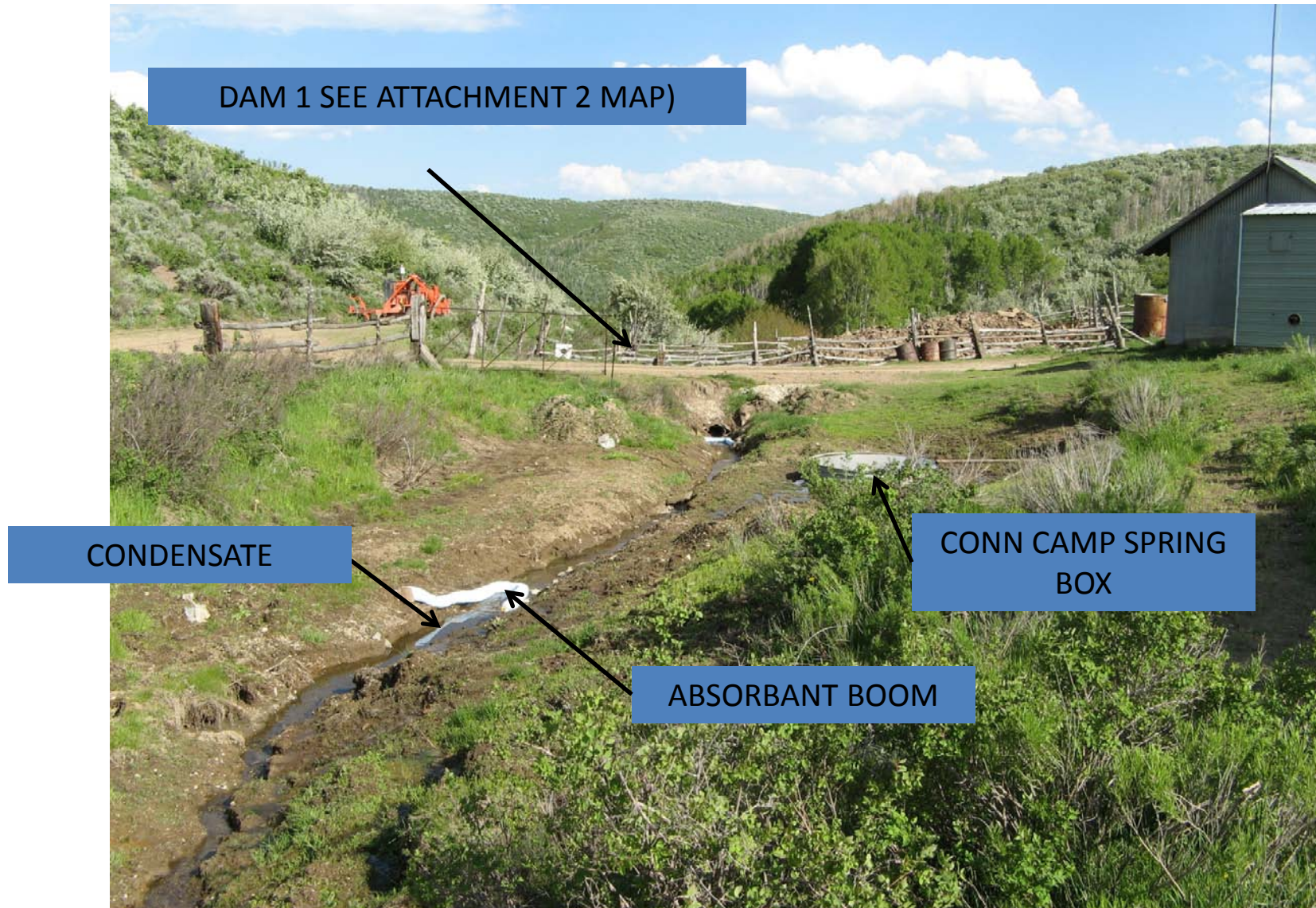


ATTACHMENT 2
VIEW WEST AND DOWNHILL FROM CASCADE CREEK 697 PAD
SHOWING CONN CAMP STRUCTURES

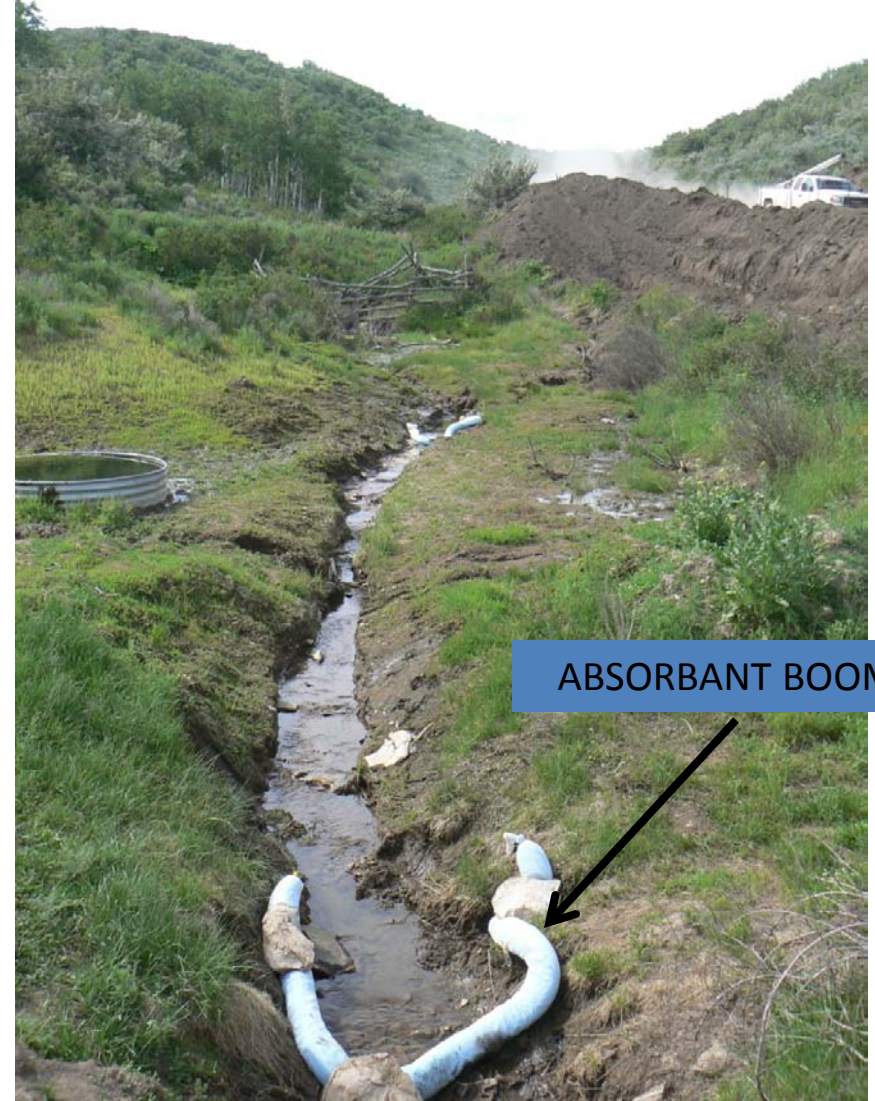


SOURCE: COGCC 6/17/08

ATTACHMENT 3 – UNNAMED TRIBUTARY LOOKING DOWNSTREAM
SHOWING CONN CAMP STRUCTURES ON WEST SIDE AND ABSORBANT BOOM



ATTACHMENT 4 – UNNAMED TRIBUTARY LOOKING UPSTREAM
SHOWING THE STOCK TANK AT CONN CAMP
WHICH IS LOCATED ON THE ON WEST SIDE



SOURCE: COGCC 6/25/08

ATTACHMENT 5

CASCADE CREEK 697 PAD

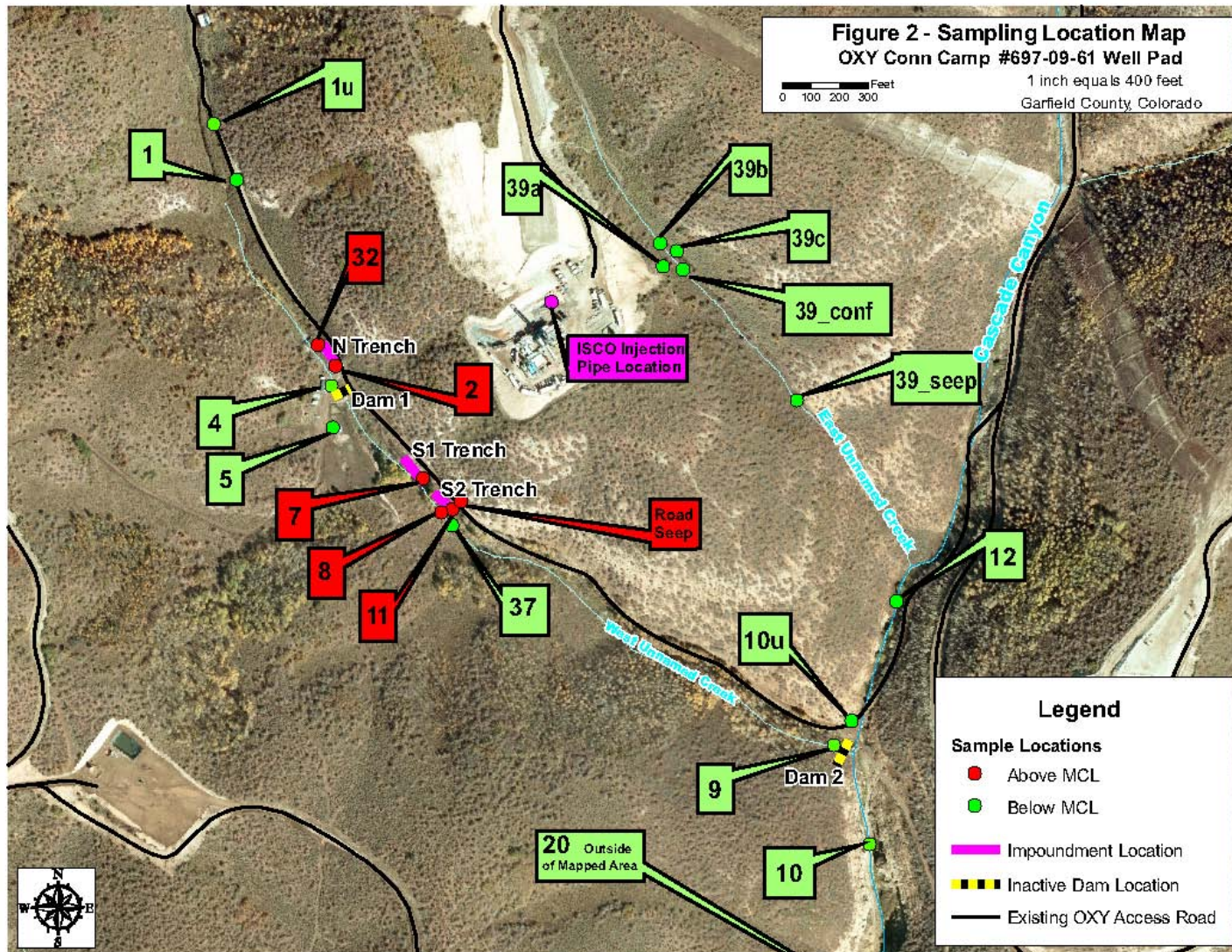
PART OF THE ORIGINAL DRILLING PIT SHOWING HYDROCARBON STAINED SOIL AND ROCK



DARK DISCOLORATION
INDICATES
HYDROCARBON STAINING

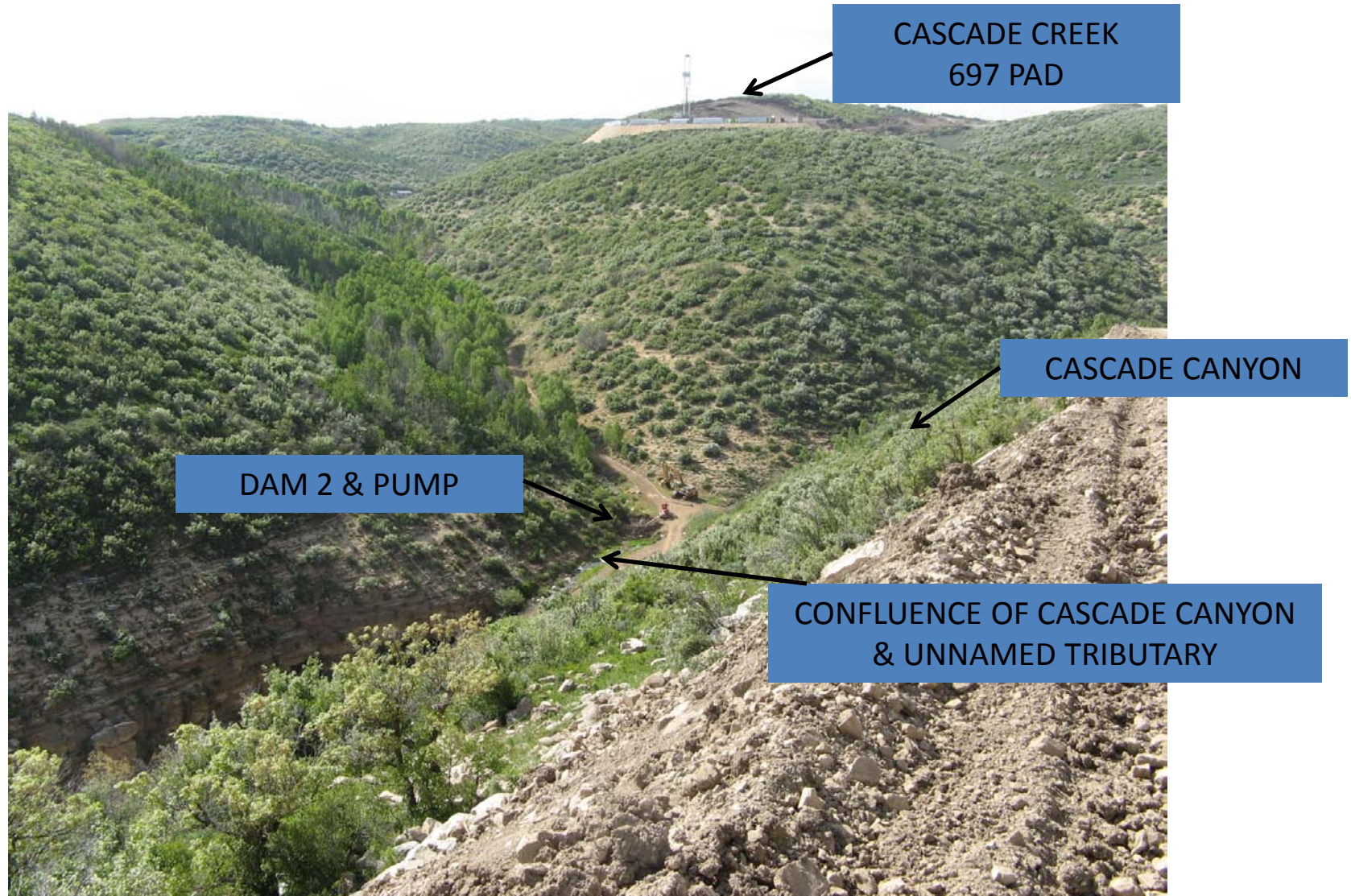
ATTACHMENT 6

OXY CASCADE CREEK 697 PAD

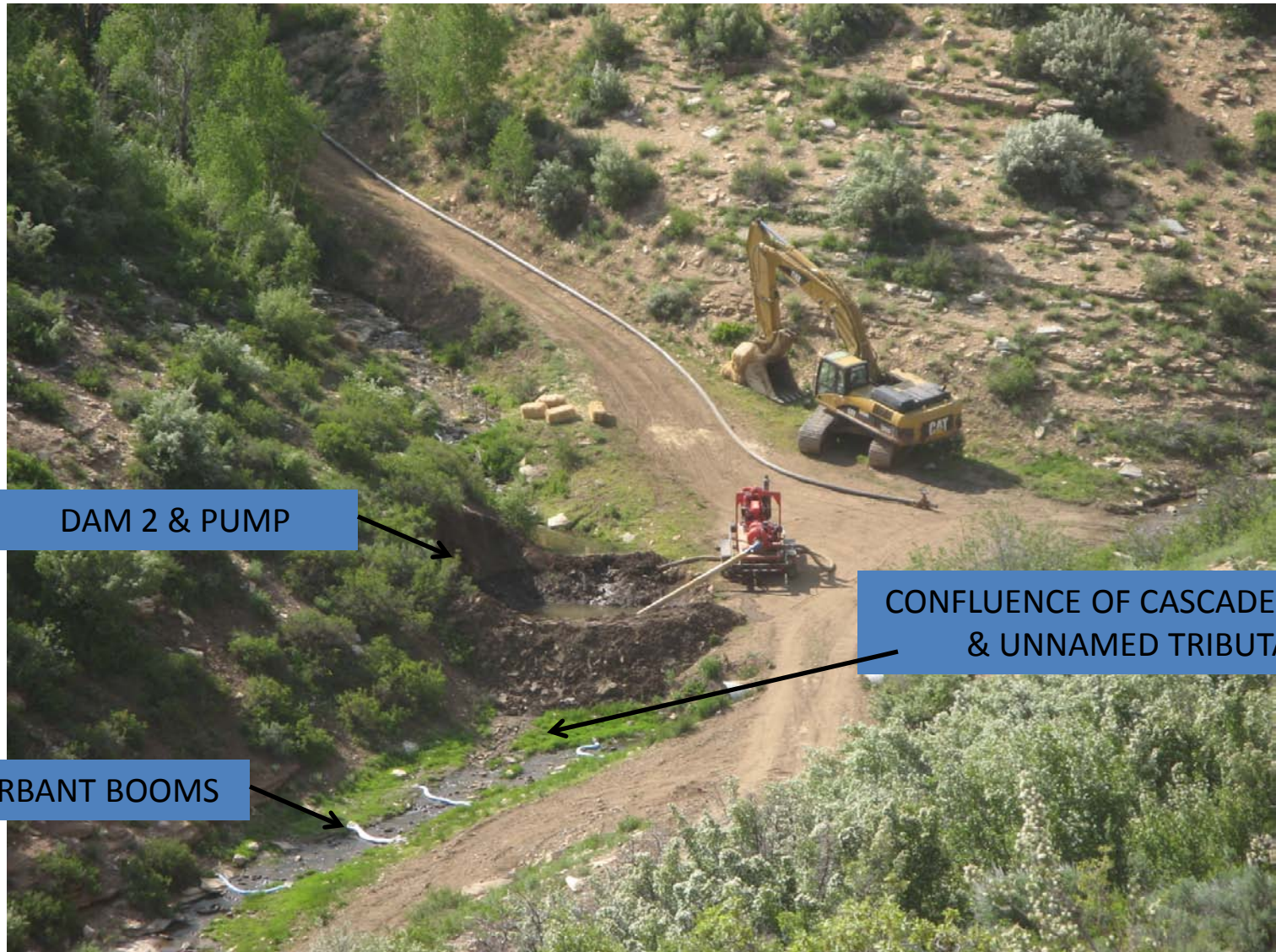


SOURCE: OXY 2009 STATUS REPORT

ATTACHMENT 7 – OXY CASCADE CREEK 697 PAD, CONFLUENCE OF
CASCADE CREEK & UNNAMED TRIBUTARY SHOWING LOCATION OF
DAM 2



ATTACHMENT 8 – CLOSEUP OF CONFLUENCE OF CASCADE CREEK & UNNAMED TRIBUTARY SHOWING LOCATION OF DAM 2



ATTACHMENT 9
UNNAMED TRIBUTARY
DAM 1

USED TO RETAIN IMPACTED WATER
(CASCADE CREEK 697 PAD ON EAST SIDE)



ATTACHMENT 10 – LOOKING
DOWNSTREAM FROM CONFLUENCE
OF CASCADE CANYON
& UNNAMED TRIBUTARY
SHOWING ABSORBANT BOOMS



ABSORBANT BOOMS

ATTACHMENT 11

IRIDESCENT SHEEN IS CONDENSATE SEEPING FROM EAST BANK OF THE UNNAMED TRIBUTARY



SOURCE: COGCC 6/17/08

ATTACHMENT 12

INTERCEPTOR TRENCHES ON EAST SIDE OF UNNAMED TRIBUTARY
(A.K.A “N TRENCH” OR “NORTH TRENCH” SEE ATTACHMENT 2 LOCATION MAP)



SOURCE: COGCC 8/11/08

ATTACHMENT 13
INTERCEPTOR TRENCHES ON EAST SIDE OF UNNAMED TRIBUTARY
(A.K.A "S2 TRENCH" SEE ATTACHMENT 2 LOCATION MAP)



SOURCE: COGCC 8/11/08

ATTACHMENT 14
FENCING ALONG UNNAMED TRIBUTARY

USED TO RESTRICT ACCESS BY
LIVESTOCK AND WILDLIFE
(VIEW LOOKING UP STREAM
FROM DAM 2)



SOURCE: COGCC 6/25/08



ATTACHMENT 15
CASCADE CREEK 697
DRILLING/PRODUCTION PIT &
EXTENSION

Source: COGCC 6/25/08

ATTACHMENT 16 - CASCADE CREEK 697 PAD
A PORTION OF THE ORIGINAL DRILLING PIT
TRACER TEST IN PROGRESS



SOURCE: COGCC 6/19/08