1R - 496

WORKPLANS

DATE: 10 - 2 - 08

18496

Paladin Energy Corporation S. Vacuum SWD Line Closure Plan Unit D, Section 35, Township 18S, Range 35E Lea County, New Mexico

October 2, 2008



RECEIVED

Prepared for:

Paladin Energy Corporation 4006 Dunkirk Midland, Texas 79707

By:

Safety & Environmental Solutions, Inc. 703 E. Clinton Hobbs, New Mexico 88240 (575) 397-0510

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I. Company Contacts

Sergio Contreras 505-397-0510 scontreras@sesi-nm.com Mickey Horn 432-522-2162 paladinmid@suddenlink.net

II. Background

SESI was contracted to perform a site investigation at the S. Vacuum SWD Line. On February 28, 2008 a representative of DCPM notified Paladin that while remediating a leak at the DCPM's Eddy County Loop (COP line #12200), it was discovered that there was some soil, contaminated with chlorides, from Paladins' SWD line that crosses the DCPMs' line in the area. As reported in the Site Investigation Report dated July 16, 2008 installation of a monitor well onsite indicated groundwater contamination.

II. Surface and Ground Water

Monitor wells on site were measured on July 8, 2008 and the depth of groundwater was approximately 60'.

III. Soils

The soils in the area are predominantly sand and sandy loam.

IV. Work Performed

On July 7, 2008 SESI was onsite to install two additional monitor wells in order to determine the groundwater gradient at the site. These well were developed and water samples were retrieved from the wells. The samples were properly preserved and transported under Chain of Custody to Argon Laboratories, of Hobbs, New Mexico for analysis. The samples were analyzed for Chlorides (EPA Method 300.0), Total Dissolved Solids (TDS) (EPA Method 160.1), and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) (EPA Method 8021B). The results of the analysis were as follows:

Sample ID	CI ⁻ mg/L	TDS mg/L	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Total Xylenes ug/L
MW2	69	410	ND	ND	ND	ND
MW3	70	430	ND	ND	ND	ND

On July 21, 2008 an additional sample was retrieved from Monitor Well 1. The sample was properly preserved and transported under Chain of Custody to Argon Laboratories for analysis. The sample was analyzed for Chlorides, TDS, and BTEX. The results of the analysis were as follows:

Sample ID	Cl ⁻ mg/L	TDS mg/L	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Total Xylenes ug/L
MW1	460	1700	ND	ND	ND	ND

After calculating the measurements from the three (30) wells the groundwater flow direction was determined to be southeast of the site.

On August 26, 2008 two (2) additional wells were installed directly down-gradient of the spill area. These well were developed and water samples were retrieved from the wells. The samples were properly preserved and transported under Chain of Custody to Argon Laboratories for analysis. The sample was analyzed for Chlorides, TDS, and BTEX. The results of the analysis were as follows:

Sample ID	Cl ⁻ mg/L	TDS mg/L	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Total Xylenes ug/L
MW4	1700	3700	1.3	ND	ND	ND
MW5	2600	5400	ND	ND	ND	ND

V. Conclusions

After installation of the monitor wells it was found that the further away from the site the Chloride levels increased, which would indicate the contamination in these wells is not from this site. Aerial photographs indicate a large pit located at the South Vacuum Unit Well 35-3 that was drilled in 1958 and it is believed this pit could be the source of the contamination.

It is requested that the existing excavation be backfilled above the pipeline, lined with a 40-mil impervious liner, backfilled with clean soil and reseeded. The monitor wells will continue to be monitored and a new investigation conducted in the area of the old pit to determine if it is the source of the contamination.

VI. Figures & Appendices

Figure 1 – Vicinity Map

Figure 2 – Site Plan

Figure 3 – Log of Monitor Well

Appendix A - C-141

Appendix B – Analytical Results

Figure 1
Vicinity Map

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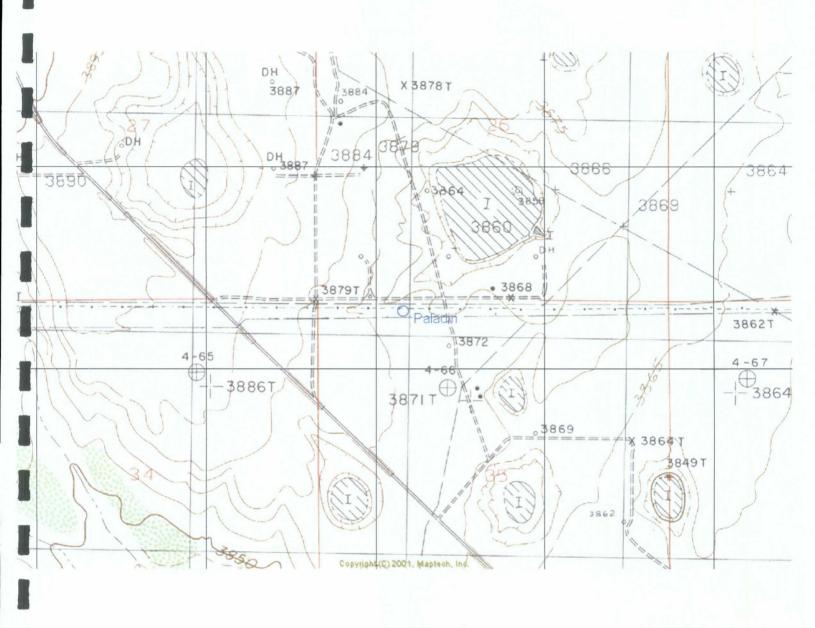


Figure 2 Site Plan

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H

B



Figure 3
Monitor Well Logs



LOG OF BORING MW-1 (temp well TMW-2)

Cover

Steel well protector box

Cement

PVC casing

Bentonite seal

(Page 1 of 2)

Palidin Energy Corporation Buckeye Water Release Investigation NE/4 NW/4, Sec. 35, T18S, R35E Lea County, New Mexico N32° 42' 37.4", W103° 25' 52.9" Date, Time Started : 06/06/08, 0850

Date, Time Completed: 06/06/08, 1035
Hole Diameter: 6-1/4", 4-3/4" tricone bits

Drilling Equipment Drilled By Logged By : Ingersoll-Rand TH-60 : Harrison-Cooper, Lubbock : D.G. Boyer, P.G., SESI

Hole Diameter
Drilling Method
Sample Method

: Air Rotary : Air cuttings Company Rep. Survey By

Rep.

	N32° 42	' 37.4"	', W103° 25' 52.9"	Sample Method	: Air cuttings			
			Water Levels					
			▼ Hydrocarbon Product					
	[Well: MW-1			
Depth		일			Elev.:			
in	၂ တ	49						
Feet	USCS	GRAPHIC	DESCRI	DESCRIPTION				
0-								
-]							
-	-		0-5 ft. SILTY SAND, light	brown very fine				
-			grained, with abundant sn					
-	-							
5 -]							
-								
-	1		5-10 ft. SILTY SAND, ligh CALICHE	t brown, less				
-	SM		0, 12, 0, 12	•				
10-								
]							
	1							
	-		10-18 ft. SILTY SAND, lig	ht brown, very fine				
15-	-		grained, frequent CALICH	IE chips				
-	1							
	1							
			18-22 ft. CALICHE, hard,	cuttings limev white				
20-	CA		with very fine grained san	d and chert				
	-{		fragments					
,	SP	DS/03/	22 ft. SAND, brown, fine	grained, moist				
			23-25 ft. SANDSTONE, c	rystalline, hard with				
25 -	SS		chert and sandstone, ligh grained	t brown, very fine				
•	SP		26 ft. SAND, light brown,	very fine grained	-1 88			
,					-1 00			
	SS		27 ft. SANDSTONE, light grained	brown, very fine				
30-	SP		30 ft. SAND, light brown,	von fine grained				
			uniform	very fine grained,	1 88			
	en/ee		31 ft. SAND and occasion	nal SANDSTONE	- 1 88			
	SP/SS		25 % 24.15	1041100				
35-	 		35 ft. SAND and occasion	nai SANDSTONE _				
	-		35-36 ft. SAND, brown					
	SP							
	7							
40-]							
70	1							

Well Construction Information

COMPLETION DATA

Hole Depth : 80 ft. below LS
TD Inside casing : 72.71 ft. below TOC
TD from surface : 70.1 ft. below LS

CASING, SCREEN & CAP

Material, joints PVC, threaded 2 in. ID Diameter Monoflex Slotted, 15 ft. 0.010 slot Manufacturer Screen type, length Screen opening Scrn. placement 55-70 ft. BLS Sump None 0.2 ft PVC Bottom Cap Above-ground steel Protector Casing

Lock Key # : -SEALS & SAND PACK

Cement seal type QuikCrete Cement volume 3 bags Cem't placement 0-3 ft. BLS Annular seal name Holeplug bentonite Annular seal size 3/8" chips 15 bags, hydrated 3-52 ft. BLS Seal volume Seal placement Oglebay-Norton Sand pack name 20-40 silica, 9 bags 52-69.5 ft. BLS Sand size, volume Sand placement Sand, 69.5-80 ft. BLS Native backfill (type) :

ELEVATIONS

Ground elevation Top of casing : approx. 3,867 ft.

WELL INSTALLATION:

06/06/08: Drilled to 80 ft. Change to 4-3/4" sand bit at 40 ft. Change to 4-3/4" tricone bit at 62 ft., back to sand bit at 65 ft. Saturated at 65 ft. Installed 15 ft. 0.010 slot screen, placed sand (9 bags) to 52 ft. Left casing as temporary well. 07/07/08: Returned to site and completed as permanent well. Added 15 bags Holeplug bentonite, 3 bags Quikcrete to cement above-ground steel well protection box with concrete pad.

WELL DEVELOPMENT:

06/06/08: Developed well, pumped 17 gallons water and sand out of well. Before purging, TW 63.42 ft. BTOC, TD: 72.30 ft.

07/08/08: TW 63.53 ft. BTOC, TD: 72.71 ft.

Notes

Completed as a temporary well TMW-2; converted to permanent well MW-1 07/07/08. Developed 06/06/08; Sampled 06/06/08 and 06/10/08.

Field chloride test on sample, 1530 6/6/08: 510 ppm, lab result 480 mg/L Field test on sample (following purging), 1315 6/10/08: 502 ppm, lab result 570 mg/L

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LOG OF BORING MW-1 (temp well TMW-2)

(Page 2 of 2)

Palidin Energy Corporation Buckeye Water Release Investigation NE/4 NW/4, Sec. 35, T18S, R35E Lea County, New Mexico N32° 42' 37.4", W103° 25' 52.9"

Date, Time Started 06/06/08, 0850

Date, Time Completed: 06/06/08, 1035 : 6-1/4", 4-3/4" tricone bits Hole Diameter

: Air Rotary **Drilling Method** Sample Method : Air cuttings

Drilling Equipment Drilled By

Ingersoll-Rand TH-60 : Harrison-Cooper, Lubbock : D.G. Boyer, P.G., SESI

Logged By

Company Rep)
Survey By	

 		1	· · · · · · · · · · · · · · · · · · ·						
			Water Levels						
			▼ Hydrocarbon Product						
		1	Measured Water Level						
				Well: MW-1					
Depth		GRAPHIC		Elev.:					
in	SS	立			Well Construction				
Feet	nscs	35	DESCRIPTION		Information				
 									
40		NEW SE	40 ft. SAND, brown, very fine grained,		COMPLETION DATA				
1 7			uniform, change to 4-3/4" sand bit for drilling		Hole Depth : 80 ft. below LS				
7			40-45 ft. SAND, brown, very fine grained,		TD Inside casing : 72.71 ft. below TOC				
1 1			uniform		TD from surface : 70.1 ft. below LS				
1 45				PVC casing	CASING, SCREEN & CAP				
45					Material, joints : PVC, threaded : 2 in, ID				
]					Manufacturer : Monoflex				
			45-50 ft. SAND, brown, very fine grained,	Bentonite seal	Screen type, length : Slotted, 15 ft. Screen opening : 0.010 slot				
			uniform		Scrn. placement : 55-70 ft. BLS Sump : None				
50-		125 A S			Bottom Cap : 0.2 ft PVC				
]	SP				Protector Casing : Above-ground steel Lock Key # :				
	O1				SEALS & SAND PACK				
ļ <u> </u>			50-55 ft. SAND, brown, fine grained, with		Cement seal type : QuikCrete				
_			occasional sandstone fragment		Cement volume : 3 bags				
55					Cem't placement : 0-3 ft. BLS Annular seal name : Holeplug bentonite				
					Annular seal size : 3/8" chips				
-					Seal volume : 15 bags, hydrated Seal placement : 3-52 ft. BLS				
-		24 (1) (4) 344 (1) (4)	55 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Sand pack name : Oglebay-Norton				
-			55-62 ft. SAND, with occasional sandstone fragment		Sand size, volume : 20-40 silica, 9 bags Sand placement : 52-69.5 ft. BLS				
60-			nagment		Native backfill (type) : Sand, 69.5-80 ft. BLS				
_				- Sand pack PVC screen	ELEVATIONS.				
-		10000	62-64 ft. SANDSTONE, hard, change bit to	PVC screen	Ground elevation : approx. 3,867 ft.				
-	SS		4-3/4" tricone	FVC screen	Top of casing :				
-		75 (7.4)			WELL INSTALLATION:				
65-			64-65 ft. SAND, brown, very fine grained, uniform, change to 4-3/4" sand bit		06/06/08: Drilled to 80 ft. Change to 4-3/4"				
,			65 ft. SAND, H2O saturated		sand bit at 40 ft. Change to 4-3/4" tricone				
· -					bit at 62 ft., back to sand bit at 65 ft. Saturated at 65 ft. Installed 15 ft. 0.010				
-					slot screen, placed sand (9 bags) to 52				
					ft. Left casing as temporary well.				
70-				PVC cap	07/07/08: Returned to site and completed				
-	6D		GE 20 th CAND molding		as permanent well. Added 15 bags Holeplug bentonite, 3 bags Quikcrete to				
. ~	SP		65-80 ft. SAND, making water		cement above-ground steel well				
_					protection box with concrete pad.				
75				Native backfill	WELL DEVELOPMENT				
75-]				WELL DEVELOPMENT: 06/06/08: Developed well, pumped 17				
					gallons water and sand out of well.				
_					Before purging, TW 63.42 ft. BTOC, TD:				
_	1				72.30 ft:				

07/08/08: TW 63.53 ft. BTOC, TD: 72.71 ft.

80

Completed as a temporary well TMW-2; converted to permanent well MW-1 07/07/08. Developed 06/06/08; Sampled 06/06/08 and 06/10/08.

Field chloride test on sample, 1530 6/6/08: 510 ppm, lab result 480 mg/L Field test on sample (following purging), 1315 6/10/08: 502 ppm, lab result 570 mg/L

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LOG OF BORING MW-2

Native backfill

(Page 1 of 1)

Palidin Energy Corporation Buckeye Water Release Investigation NE/4 NW/4, Sec. 35, T18S, R35E Lea County, New Mexico N32° 42' 39.3", W103° 25' 56.2"

Date, Time Started

07/07/08, 0805 Date, Time Completed: 07/07/08, 0905

: 6-1/4", 4-3/4" tricone bits

Drilling Equipment Drilled By Logged By

: Ingersoll-Rand TH-60 : Harrison-Cooper, Lubbock : Isaac Kincaid, SESI

Hole Diameter **Drilling Method** Sample Method

: Air Rotary : Air cuttings Company Rep.

Company	٠	•
Survey By		

Ĺ	N32 42	2 39.3	, VV103° 25° 56.2	Sample Method :	: Air cuttings Survey By :					
	-		Water Levels ▼ Hydrocarbon Product							
				I						
Depth in	SS	GRAPHIC			Well: MW Elev.:	/-2 Cover		onstruction		
Feet	nscs	GR	DESCRI	PTION		'	Infor	rmation		
<u> </u>	CA/SM CA/SM CA/SM CA SP SP/SS		0-0.5 ft. CALICHE rock wi 0.5-5 ft. CALICHE, hard r fragments 5-10 ft. SANDY SILT with CALICHE, light brown 10-15 ft. SANDY SILT with CALICHE, light brown 18-20 ft. Hard rock layer, quartz, with SILTY SAND 20-25 ft. CHERT, silica quartz, with SILTY SAND 30 ft. SAND, tan brown, fi 30-35 ft. Mixed SAND and layers 35 ft. SAND, tan brown, vi 35-40 ft. SAND, tan brown, vi	ith SAND ock with chip ground-up th ground-up CHERT, silica uartz ine grained d rock (SANDSTONE)		Steel well protector box. Cement	COMPLETION DAT. Hole Depth TD Inside casing TD from surface CASING, SCREEN of Material, joints Diameter Manufacturer Screen type, length Screen opening Scrn. placement Sump Bottom Cap Protector Casing Lock Key # SEALS & SAND PAC Cement seal type Cement volume Cem't placement Annular seal name Annular seal name Sand pack name Sand pack name Sand placement Native backfill (type) ELEVATIONS.	A 75 ft. below LS 73.06 ft. below TOC 70.4 ft. below LS & CAP PVC, threaded 2 in. ID Monoflex Slotted, 10 ft. 0.010 slot 60.5-70.5 ft. BLS None 0.2 ft PVC Above-ground steel CK QuikCrete 3 bags 0-3 ft. BLS		
45-	SP/CA SP SP/SS		40-45 ft. SAND, fine grain 47-49 ft. SAND with CALI 50 ft. SAND, light brown, slightly damp 50-55 ft. SAND, light brow grained, and caliche quai 55-60 ft. CALICHE (sand 60 ft. Hard rock CALICHE 62 ft. SANDSTONE with	very fine grained, wn, very fine rtz (SANDSTONE) stone?) and SAND (Sandstone)		— Sand pack	ft. 0.010 slot screen, bags) to 58 ft. Adde bentonite, 3 bags Q above-ground steel and concrete pad. WELL DEVELOPMI 07/08/08: Developer pump, purged 19 ga out of well. Before p	75 ft. using 5-1/4" d at 63 ft. Installed 10 , placed sand (3 ad 9 bags BDS uikcrete to cement well protection box ENT: d well using air lift allons water and sand urging, TW 63.25 ft.		
70-	SP		medium grained, wet			—PVC screen —PVC cap	BTOC, TD: 73.14 ft. TD: 73.06 ft.	After development		

75

Sampled 07/08/08. Field chloride test on sample, 0900: 61 ppm, lab result 69 mg/L.

5-1/4 in. tricone bit.

65-75 ft. SAND, brown, wet, soft drilling with

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LOG OF BORING MW-3

(Page 1 of 1)

Palidin Energy Corporation Buckeye Water Release Investigation NE/4 NW/4, Sec. 35, T18S, R35E Lea County, New Mexico N32° 42' 39.0", W103° 25' 51.9"

Date, Time Started

Hole Diameter

Drilling Method

Sample Method

07/07/08, 0915 Date, Time Completed: 07/07/08, 1015

: Air Rotary

: Air cuttings

: 6-1/4", 4-3/4" tricone bits

Drilled By Logged By

Ingersoll-Rand TH-60 : Harrison-Cooper, Lubbock : Isaac Kincaid, SESI

Company Rep.

Drilling Equipment

Survey By

	1	 ,	Sample Metriou : A	. All callings Survey by				
5- 10- 15- 20- 25-	SOSO CA/SP CA CA/ML ML SS/SM ML/CA	Water Levels ▼ Hydrocarbon Product ▼ Measured Water Level DESCRI 0-0.5 ft. CALICHE rock wi 0.5-5 ft. Quartz CALICHE chip fragments 5-10 ft. Quartz CALICHE and SANDY SILT, light br 10-19 ft. SANDY SILT and brown 19-20 ft. SANDSTONE, q rock layer, light brown wit 20-25 ft. SANDY SILT wit light tan 25-30 ft. Alternating CALI layers	PTION th SAND, brown , light brown, with with chip fragments, own d caliche chips, light uaratz chert, hard h SILTY SAND h quartz CALICHE, CHE and SAND	Well: MW-3 Elev.: Cove		Well Co Infor COMPLETION DATA Hole Depth TD Inside casing TD from surface CASING, SCREEN & Material, joints Diameter Manufacturer Screen type, length Screen opening Scrn. placement Sump Bottom Cap Protector Casing Lock Key # SEALS & SAND PAG Cement seal type Cement volume Cem't placement Annular seal name	: 75 ft. below LS : 73.89 ft. below TOC : 71.2 ft. below TOC : 71.2 ft. below LS & CAP : PVC, threaded : 2 in. ID : Monoflex : Slotted, 10 ft. : 0.010 slot : 61.71 ft. BLS : None : 0.2 ft PVC : Above-ground steel :	
30 - 35 - 40 - 45 - 50 - 65 - 70 -	SP SS/CA		ined, with miminal CHE and SAND n, very fine grained n, very fine grained n, very fine grained n, very fine grained AND, hit rock layer CALICHE ND with CALICHE	- San - PVC	d pack c screen c cap	Annular seal name Annular seal size Seal volume Seal placement Sand pack name Sand size, volume Sand placement Native backfill (type) ELEVATIONS. Ground elevation Top of casing WELL INSTALLATIC 07/07/08: Drilled to 7 tricone bit. Saturated ft. 0.010 slot screen, bags) to 58 ft. Adde bentonite, 3 bags Qt above-ground steel and concrete pad. WELL DEVELOPME 07/08/08: Developed	: PDS bentonite : 3/8" chips : 3/8" chips : 10 bags, hydrated : 3-58 ft. BLS : Oglebay-Norton : 20-40 silica, 3 bags : 58-70 ft. BLS : 58-70 ft. BLS : sand, 70-75 ft. BLS : approx. 3,886 ft. :	

75

Sampled 07/08/08. Field chloride test on sample, 1030: 61 ppm, lab result 70 mg/L.

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LOG OF BORING MW-4

(Page 1 of 1)

Palidin Energy Corporation Buckeye Water Release Investigation NE/4 NW/4, Sec. 35, T18S, R35E Lea County, New Mexico N32° 42' 36.6", W103° 25' 52.2"

Date, Time Started

: 08/25/08, 0830 Date, Time Completed: 08/25/08, 0910

: 6-1/4", 4-3/4" tricone bits

Drilled By Logged By

Ingersoll-Rand TH-60 : Harrison-Cooper, Lubbock : Isaac Kincaid, SESI

Hole Diameter **Drilling Method** Sample Method

: Air Rotary : Air cuttings Company Rep. Survey By

Drilling Equipment

Water Levels Hydrocarbon Product Measured Water Level Well: MW-4 GRAPHIC Flev : Depth Well Construction **USCS** Cover in Information Feet DESCRIPTION Steel well 0 protector box COMPLETION DATA -Cement CA/SF 0-5 ft. CALICHE rock with SAND, tan brown Hole Depth 75 ft. below LS 73.11 ft, below TOC TD Inside casing 5 70.4 ft. below LS TD from surface caliche chip fragments CASING, SCREEN & CAP 10 Material, joints PVC, threaded SM Diameter 2 in ID 10-15 ft. SILTY SAND, light tan brown with Manufacturer Monoflex Slotted, 10 ft. caliche chip fragments Screen type, length 15 Screen opening 0.010 slot 60-70 ft. BLS Scrn. placement Sump None 18 ft. Hard rock layer Bottom Cap 0.2 ft PVC 20 20 ft. CALICHE, white with silty sand (quartz) Protector Casing Above-ground steel Lock Key # 20-25 ft. Hard rock layer with sandstone and CA PVC casing white chips SEALS & SAND PACK 25 25-28 ft. Hard rock layer Cement seal type QuikCrete Cement volume 3 bags 0-3 ft. BLS 28 ft. SAND, brown Cem't placement SP 30 PDS bentonite 3/8" chips Annular seal name 30 ft. SAND, light brown with chip fragments Annular seal size 30-35 ft. Alternating SAND and CALICHE Seal volume 16 bags, hydrated Bentonite seal Seal placement 3-58 ft. BLS 35 ft. SAND with sandstone fragments, light SP/CA 35 Sand pack name Oglebay-Norton 20-40 sílica, 4.5 bags 58-70 ft. BLS Sand size, volume 35-40 ft. Alternating SAND and CALICHE. Sand placement sand fine, tan brown with chip fragments Native backfill (type): Sand, 70-75 ft. BLS 40 40-45 ft. SAND, tan brown, fine grained, **ELEVATIONS** quartz fragments Ground elevation approx. 3,875 ft. 45 Top of casing 45-50 ft. SAND, tan brown, fine grained, quartz fragments WELL INSTALLATION: 50 SP 08/25/08: Drilled to 75 ft. using 5-1/4" 50-55 ft. SAND, tan brown, fine grained, tricone bit. Saturated at 65 ft. Installed 10 quartz fragments, moist ft. 0.010 slot screen, placed sand (4.5 55 bags) to 58 ft. Added 16 bags BDS 55-60 ft. SAND, tan brown, fine grained, bentonite, 3 bags Quikcrete to cement quartz fragments, moist above-ground steel well protection box 60 and concrete pad. ∇ 61 ft. CALICHE layer CA Sand pack WELL DEVELOPMENT: 65 ft. CALICHE (sandstone?) quartz layer, PVC screen 65 08/26/08: Developed well using air lift white pump, purged 12 gallons water and sand 65-70 ft. SANDSTONE, coarse grained with SS out of well. Before purging, TW 63.81 ft. tan sand, water zone at 65 ft. PVC cap 70 BTOC, TD: 73.11 ft. After development 70-75 ft. CLAY or MUDSTONE, mud, dark TD: 73.03 ft. CL/MS Native backfill brown 75

80

Sampled 08/26/08. Field chloride test on sample, 1100: 2,084 ppm, lab result 1,700 mg/L

Leak\Boring Buckeye

-08-001 Files\Paladin\PAL



LOG OF BORING MW-5

(Page 1 of 1)

Palidin Energy Corporation Buckeye Water Release Investigation NE/4 NW/4, Sec. 35, T18S, R35E Lea County, New Mexico N32° 42' 35.8", W103° 25' 51.7"

: 08/25/08, 1000 Date, Time Started Date, Time Completed: 08/25/08, 1045 Hole Diameter

Drilling Method

: 6-1/4", 4-3/4" tricone bits : Air Rotary

Drilled By Logged By Company Rep.

Drilling Equipment

: Ingersoll-Rand TH-60 : Harrison-Cooper, Lubbock : Isaac Kincaid, SESI

			11111000 051 51 51		cuttings	Survey By	:
Depth in Feet	nscs	GRAPHIC	Water Levels ▼ Hydrocarbon Product ▽ Measured Water Level DESCRIPTION	l l	Well: MW-5 Elev.:	1	l Construction nformation
0		[Steel well protector		
5-	SP	V 7 NV 7	0-5 ft. @ 5 ft. SAND, light brown v	vith quartz	Cement	COMPLETION Hole Depth TD Inside casir	: 75 ft. below LS ng : 72.74 ft. below TOC
10-	CA		5-10 ft. @ 10 ft. CALICHE, quartz with sand	; light brown		TD from surfac CASING, SCRI Material, joints	
15	SP		10-15 ft. @ 15 ft. SAND, light bro]		Diameter Manufacturer	: 2 in. ID : Monoflex ngth : Slotted, 10 ft. g : 0.010 slot
20-	CA	6965			99	Bottom Cap Protector Casir	: 0.2 ft PVC
	SP		20 ft. SAND, coarse grained with fragments	quartz chip	PVC casir	Lock Kev#	;
25 -	CA		20-25 ft. @25 ft. quartz CALICHE white sand 28 ft. quartz CALICHE with minim			Cement seal ty Cement volume Cem't placeme Annular seal na	pe : QuikCrete e : 3 bags nt : 0-3 ft. BLS
35-	SM/CA		30 ft. SILTY SAND, tan brown wit fragments. 30-35 ft. Alternating sand and roo	·	Bentonite	Annular seal si	ze : 3/8" chips : 16 bags, hydrated t : 3-58 ft. BLS
40-	SS		35-38 ft. Quartz SANDSTONE, ta 38-40 ft. SAND, tan brown, very f			Sand size, volu Sand placemen	ıme : 20-40 silica, 4.5 bags
45			45 ft. SAND, tan brown, fine grair	ned		ELEVATIONS. Ground elevati Top of casing	
50 55 55 55 55 55 55 55 55 55 55 55 55 5	SP		50 ft. SAND, tan brown, very fine with caliche chips	grained		tricone bit. Sati	ed to 75 ft. using 5-1/4" urated at 66 ft. Installed 10
55-			55 ft. SAND, tan brown, very fine with caliche chips, moist	grained		bags) to 58 ft. bentonite, 3 ba	Added 16 bags BDS ags Quikcrete to cement
ے 50 اع			60 ft. SAND, tan brown, very fine with caliche chips, moist	grained	_▽	and concrete p	steel well protection box ad.
65 – 70 – 75 – 75 – 76 – 76 – 76 – 76 – 76 – 76	ļ	Š	63 ft. Hit CALICHE/SAND, light b 65 ft. CALICHE/SAND, light brow	<u>m</u>	PVC scre	en 08/26/08: Deve	OPMENT: eloped well using air lift 13 gallons water and sand
70~	SP	VE	66 ft. SAND, dark brown, water z		PVC cap	out of well. Bef BTOC, TD: 73.	ore purging, TW 64.23 ft. 71 ft. After development TD:
75	CL/MS		brown		—Native ba	Ckfill	
any rik	1						
80-	1						

Sampled 08/26/08. Field chloride test on sample, 1200: 3,749 ppm, lab result 2,600 mg/L

Z:\SESCentral\Company Files\Paladin\PAL-08-001 Buckeye Leak\Boring logs\MW-5.bor

Appendix A C-141

2145540133

35-1

District I 1625 N. French Dr., Hobbs, NM 88240 District II
1301 W. Grand Avenue, Artesia, NM 88210
District III 1000 Rio Brazos Road. Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe. NM 87505

State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Form C-141

Revised October 10, 2003

						OPERA'	ГOR		🔀 Initi	ial Report		Final Repo
		aladin Energ				Contact: Mickey Horn						
				allas, TX 75229)	Telephone No.: Cell: 432-634-6599 Office: 432-522-2162						
Facility Na	ne S. Vac	uum SWD l	ine			Facility Type						
Surface Ox	пет			Mineral ()wner	ner Lease No.						
				LOCA	ATIO	N OF RE	LEASE					
Unit Letter	Section 35	Township 18	Range 35	Feet from the 300		/South Line	Feet from the 1400	East/ W	West Line	County LEA		
V	 		La	titude		Longitud	e					
				NAT	URE	OF RELI		_				
Type of Rele							Release: unknow			Recovered		
Source of Re	case: SW	13 Kiberine				Date and H	our of Occurrenc	е	Date and 12:30 PM	Hour of Disc	ov er y	2/27/08,
Was Immedia Required	te Notice C		YES [No Not		If YES, To	Whom? OCD Ch	ıris Wil				
By Whom? Jo	hnnie Brac	lford of DCP	Midstream	, LP		Date and H	our 2/28/2008:10	1:00 AN	1.			
Was a Water	ourse Reac		Yes 🗵	NO			lume Impacting t					
some soil con Describe Arca The area affec	epresentati aminated h Affected a tod was DC	ve of DCPM y chlorides. I nd Cleanup A PM's pipelin	notified Paladin's S ction Take cright-of-	aladin that in clear SWD line crosses en.* way just east of F	DCPM' Wy 238	s line in the a	iles. DCPM to c	leanup	as per the a	ttached Form		of March
10, 2008. Palexcess chlorid	idin accepts cs.	i no responsib	ility for D	CPM's spill, but	has agro	ed to reimbur	se DCPM, for par	t of the	reasonable	remediation	costs (caused by
egulations all public health o should their of	operators a or the environations ha nent. In ad	re required to onment. The a ve failed to a dition, NMO	report and acceptance leguately CD accept	I/or file certain re cof a C-141 report restigate and re	lease no t by the mediate	tifications and NMOCD ma contaminatio	tnowledge and und perform corrective received as "Final Re n that pose a threathe operator of re	ive action port" de at to gre	ons for rele ocs not relie ound water.	ases which neve the opera	nay en tor of er. hud	danger liability nan health
Signature;	7	4		•			OIL CONS	ERV.	ATION I	DIVISIO	Ā	
rinted Name:	George G.	Fenton			A	Approved by District Supervisor:						
itle: Presider	t & CEO					pproval Date:		E	xpiration D	ate:		
-mail Address		@aol.com			c	Conditions of Approval:				Attached		
	nal Sheet	If Necessar	Phone: 2	14-654-0132								

Appendix B Analytical Results



29 July 2008

Bob Allen Salety & Environmental Solutions; Inc. 703 E. Clinton Ave (Hobbs: NM 88240

RE: Paladine:Buckeye/Leak/Project Data

Enclosed are the results for sample(s) received on 107/21/08-15:00 by Argon Laboratories. The sample(s) were analyzed according to instructions in accompanying chain-of-custody. Results are summarized on the following pages.

Please see quality control report for a summary of QC data pertaining to this project.

The sample(s) will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations.
Sample(s) may be archived by prior arrangement.

Thank you for the opportunity to service the needs of your company.

Sincerely

Hiram Cueto Lab Manager

CHAIN OF CUSTODY

2126 W. Marland Ave Hobbs. NM 88240

Argon Labs

info@argonlabs.com
505)397-0296
505)397-0295 (

Project No. Act 1-08-001 Project Title Act Gall A Sur Key	Suckey Call		Client: SEST Address: 70 F & Climan Contact: Hobbs, nm 8 8240	88240		
├ `	7		25/35	į.		!
+ Sage	Sixe !		Bill To:			
· ! !!!			Client: Same			
TURN AROUND TIME	IME		ANA	ANALYSIS		
RUSH 24 Hour 48 Hour	other	Standard	5			
		(5 days)	بر (۱۹۰			
			=219 501			COMMENTS
Sample ID. Date Time	# Containers	Matrix				
7/21/18	2	1420	7			
Relinquished By:	Date: 7/21/03	Time:	Recolved BY 1	Date:	Time: 1500	SPECIAL INSTRUCTIONS:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

Argon Laboratories Sample Receipt Checklist

Client Name:	SESI			[Date & Ti	me Received:	07/21/08		15:00		
Project Name:	Paladine Bucke	ye Le	eak	(Client Pr	oject Number:	PAL-08-001				
Received By:	R.E.		_	Mat	rix:	Water 🔽	Soil				
Sample Carrier:	Client	Lab	oratory	$\overline{\checkmark}$	Fed Ex	C UP	S Other				
Argon Labs Project	Number:	C80	7009			_					
Shipper Container in	good condition?					Samples receiv	red in proper container	rs? Ye	s 🔽	No [
	N/A	Yes	7	No		Samples receiv	red intact?	Ye	s 🗸	No [
Samples received un	der refrigeration?	Yes	V	No		Sufficient samp	le volume for requeste	ed tests? Ye	s 🗸	No [_
Chain of custody pres	sent?	Yes	/	No		Samples receiv	red within holding time	? Ye	es 🗸	No [
Chain of Custody sig	ned by all parties?	Yes	J	No		Do samples co	ntain proper preservat N/A	ive? Ye	es 🔽	No	
Chain of Custody ma	tches all sample la	ibels?				Do VOA vials cor	ntain zero headspace?				
		Yes	V	No			(None submitted	☐) Ye	es 🗸	No	
					Subjec	!:	j:				
Contacted By: Call Received By: Comments:					- 				ime:		

Safety & Environmental Solutions, Inc.

703 E. Clinton Ave Hobbs, NM 88240 Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Project Manager: Bob Allen

Work Order No.:

C807009

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW # 1	C807009-01	Water	07/21/08 09:00	07/21/08 15:00

Approved By

Argon Laboratories, Inc.

Safety & Environmental Solutions, Inc.

703 E. Clinton Ave

Hobbs, NM 88240

Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Project Manager: Bob Allen

Work Order No.:

C807009

ANALYSIS REPORT

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
MW # 1 (C807009-01) Water Sampled	1: 07/21/08 09:00 Receiv	ed: 07/21/08	15:00				
Total Dissolved Solids	1700	10	mg/L	1	07/24/08	EPA 160.1	
Chloride	460	1.0	ц	н	07/25/08	EPA 300.0	

Approved By

Argon Laboratories, Inc.

Safety & Environmental Solutions, Inc.

703 E. Clinton Ave Hobbs, NM 88240 Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Project Manager: Bob Allen

Work Order No.:

C807009

Volatile Organics by EPA Method 8021B

		Reporting					
Analyte	Result	Limit	Units	Dilution	Analyzed	Method	Notes
MW # 1 (C807009-01) Water	Sampled: 07/21/08 09:00 Receiv	ed: 07/21/08	15:00				
Benzene	ND	0.5	ug/L	1	07/24/08	8021B	
Toluene	ND	0.5	**		ŧı	н	
Ethylbenzene	ND	0.5	ir.	11	н	н	
Xylenes (total)	ND	1.0		II	ti .	11	
Surr. Rec.:		98 %			"	#	

Approved By

Argon Laboratories, Inc.

Safety & Environmental Solutions, Inc.

Project Number: PAL-08-001

703 E. Clinton Ave Hobbs, NM 88240 Project Name: Paladine Buckeye Leak

Project Manager: Bob Allen

Work Order No.:

C807009

ANALYSIS REPORT - Quality Control

Argon Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	RPD	Notes
Batch CR00120 - General Prep								
Blank (CR00120-BLK1)				Prepared &	Analyzed:	07/24/08		
Blank (CR00120-BLK1) Total Dissolved Solids	ND	10	mg/L					
				Prepared &	z Analyzed:	07/24/08		
Total Dissolved Solids	980		mg/L	1000		98		
LCS Dup (CR00120-BSD1)				Prepared &	z Analyzed:	07/24/08		
· · · · · · · · · · · · · · · · · · ·	1010		mg/L	1000		101	3	
Total Dissolved Solids Matrix Spike (CR00120-MS1)				Prepared &	2 Analyzed	: 07/24/08		
Total Dissolved Solids	1020		mg/L	1000		102		
Matrix Spike Dup (CR00120-MSD1)				Prepared &	¿ Analyzed	: 07/24/08		
Total Dissolved Solids	1000		mg/L	1000		100	2	····
Batch CR00121 - General Prep								
Blank (CR00121-BLK1)				Prepared &	k Analyzed	: 07/25/08		
Chloride	ND	1.0	mg/L					
LCS (CR00121-BS1)				Prepared &	& Analyzed	: 07/25/08		
Chloride	4.90		mg/L	5.00		98		
LCS Dup (CR00121-BSD1)				Prepared &	& Analyzed	: 07/25/08		
Chloride	5.05		mg/L	5.00		101	3	
Matrix Spike (CR00121-MS1)				Prepared &	& Analyzed	: 07/25/08		
Chloride	5,10		mg/L	5.00		102		
Matrix Spike Dup (CR00121-MSD1)				Prepared &	& Analyzed	: 07/25/08		
Chloride	5.00		mg/L	5.00		100	2	

Approved By

Argon Laboratories, Inc.

Safety & Environmental Solutions, Inc.

Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Work Order No.:

Project Manager: Bob Allen

C807009

Volatile Organics by EPA Method 8021B - Quality Control

Argon Laboratories

703 E. Clinton Ave

Hobbs, NM 88240

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	RPD	Notes
Batch CR00122 - EPA 5030B								
Blank (CR00122-BLK1)				Prepared &	Analyzed	: 07/24/08		
Surrogate: a,a,a-Trifluorotoluene	54.0		ug/L	50.0		108		
Benzene	ND	0.5	11					
Toluene	ND	0.5	"					
Ethylbenzene	ND	0.5	**					
Xylenes (total)	ND	1.0	"					
LCS (CR00122-BS1)				Prepared &	k Analyzed	: 07/24/08		
Ethylbenzene	49.0		ug/L	50.0		98		
LCS Dup (CR00122-BSD1)				Prepared &	& Analyzed	: 07/24/08		
Ethylbenzene	47.0		ug/L	50.0		94	4	

Approved By

Argon Laboratories, Inc.

Safety & Environmental Solutions, Inc.

703 E. Clinton Ave Hobbs, NM 88240 Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Project Manager: Bob Allen

Work Order No.: C807009

Notes and Definitions

DET

Analyte DETECTED

ND

Analyte NOT DETECTED at or above the reporting limit

'nR

Not Reported

dry

Sample results reported on a dry weight basis

RPD

Relative Percent Difference

Approved By

Argon Laboratories, Inc.

CHAIN OF CUSTODY

Argon Labs

Tott		COMMENTS	SPECIAL INSTRUCTIONS:
	570		Time: SPECIAL I
CHAIN OF CUSTODY	Client: SESF Address: 703 & (1) ya 85240 Contact: 140 bs, nm 85240 Phone 75) 238 24 357-0570 Fax: Bill To: Client: 54 MC	SOL SPECIOLA ANALYSIS	Received By: Received By: Date: Date: Date: Date:
s.com		acher Standard (5 days) # Containers Matrix # # # # # # # # # # # # # # # # # # #	Date: Time: 7/6/63 /4/0 Date: Time: Date: Time:
2126 W. Marland Ave Hobbs. NM 88240 (565):397-0295 (505):397-0296 info@argonlabs.com		Sample ID. Date Time Time The Total AROUND TIME The Time Time Time Time Time Time Time Tim	Relinquished By: Relinquished By:

Safety & Environmental Solutions, Inc.

Project Number: PAL-08-001

703 E. Clinton Ave

Project Name: Paladine Buckeye Leak

Work Order No.:

Hobbs, NM 88240

Project Manager: Bob Allen

C807004

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW #2	C807004-01	Water	07/08/08 09:00	07/08/08 14:10
MW #3	C807004-02	Water	07/08/08 10:30	07/08/08 14:10

Safety & Environmental Solutions, Inc.

703 E. Clinton Ave

Hobbs, NM 88240

Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Project Manager: Bob Allen

Work Order No.:

C807004

ANALYSIS REPORT

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
MW #2 (C807004-01) Water Sample	ed: 07/08/08 09:00 Receiv	ed: 07/08/08	14:10			· · · · · · · · · · · · · · · · · · ·	
Total Dissolved Solids	410	10	mg/L	1	07/11/08	EPA 160.1	
Chloride	69	1.0	n	н	07/11/08	EPA 300.0	
MW #3 (C807004-02) Water Sample	ed: 07/08/08 10:30 Receiv	ed: 07/08/08	14:10				
Total Dissolved Solids	430	10	mg/L	1	07/11/08	EPA 160.1	
Chloride	70	1.0	n .	ti .	07/11/08	EPA 300.0	

Safety & Environmental Solutions, Inc.

703 E. Clinton Ave Hobbs, NM 88240 Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Project Manager: Bob Allen

Work Order No.:

C807004

Volatile Organics by EPA Method 8021B

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
MW #2 (C807004-01) Water Sample	1: 07/08/08 09:00 Receiv	ed: 07/08/08	14:10				
Benzene	ND	0.5	ug/L	1	07/14/08	8021B	
Toluene	ND	0.5	**	11	0	n	
Ethylbenzene	ND	0.5	**	ij	н	н	
Xylenes (total)	ND	1.0	н	п	ti .	41	
Surr. Rec.:		96 %			n	TI .	
MW #3 (C807004-02) Water Sample	d: 07/08/08 10:30 Receiv	ed: 07/08/08	14:10				
Benzene	ND	0.5	ug/L	1	07/14/08	8021B	
Toluene	ND	0.5	**	н	n	n	
Ethylbenzene	ND	0.5	*	**	n	0	
Xylenes (total)	ND	1.0	11	н	п	**	
Surr. Rec.:		97 %			"	11	

Safety & Environmental Solutions, Inc.

703 E. Clinton Ave

Hobbs, NM 88240

Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Project Manager: Bob Allen

Work Order No.: C807004

ANALYSIS REPORT - Quality Control

Argon Laboratories

	D 1:	Reporting	11-14-	Spike	Source	%REC	RPD	Matan
Analyte	Result	Limit	Units	Level	Result	%KEC	KPD	Notes
Batch CR00107 - General Prep								
Blank (CR00107-BLK1)				Prepared &	Analyzed	: 07/11/08		
Chloride	ND	1.0	mg/L					
LCS (CR00107-BS1)				Prepared &	Analyzed	: 07/11/08		
Chloride	5,80	11,000	mg/L	5.00		116		
LCS Dup (CR00107-BSD1)				Prepared &	Analyzed	: 07/11/08		
Chloride	5.65		mg/L	5.00	-	113	3	
Matrix Spike (CR00107-MS1)				Prepared &	. Anaivzed	: 07/11/08		
Chloride	5.00		mg/L	5.00		100		
Matrix Spike Dup (CR00107-MSD1)				Prepared &	. Analyzed	: 07/11/08		
Chloride	4.80		mg/L	5.00		96	4	
D . I OD00100 C . I D								
Batch CR00108 - General Prep								·····
Blank (CR00108-BLK1)				Prepared &	Analyzed	: 07/11/08		
Total Dissolved Solids	ND	10	mg/L					
LCS (CR00108-BS1)				Prepared &	k Analyzed	: 07/11/08		
Total Dissolved Solids	1070		mg/L	1000		107		
LCS Dup (CR00108-BSD1)				Prepared &	& Analyzed	: 07/11/08		
Total Dissolved Solids	1050		mg/L	1000		105	2	
Matrix Spike (CR00108-MS1)				Prepared &	. Analyzed	i: 07/11/08		
Total Dissolved Solids	970		mg/L	1000		97		
Matrix Spike Dup (CR00108-MSD1)				Prepared &	& Analyzec	1: 07/11/08		
Total Dissolved Solids	980		mg/L	1000	- 1 11111 1 200	98	<u> </u>	

Approved By

Argon Laboratories, Inc.

Safety & Environmental Solutions, Inc.

703 E. Clinton Ave Hobbs, NM 88240 Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Project Manager: Bob Allen

Work Order No.:

C807004

Volatile Organics by EPA Method 8021B - Quality Control

Argon Laboratories

Notes
_

Approved By

Argon Laboratories, Inc.

Safety & Environmental Solutions, Inc.

703 E. Clinton Ave

Hobbs, NM 88240

Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Project Manager: Bob Allen

Work Order No.:

C807004

Notes and Definitions

DET

Analyte DETECTED

ND

Analyte NOT DETECTED at or above the reporting limit

Not Reported

dry

Sample results reported on a dry weight basis

RPD

Relative Percent Difference

Approved By

Argon Laboratories, Inc.

argon laboratories

04 September 2008

Bob Allen

Safety & Environmental Solutions, Inc.

703 E (Clinton Ave) Hobbs, NM 88240

RE: Paladine Buckeye Leak Project Data

Enclosed are the results for sample(s) received on 08/26/08 15:15 by Argon Laboratories. The sample(s) were analyzed according to instructions in accompanying chain-of-custody. Results are summarized on the following pages.

Please see quality control report for a summary of QC data pertaining to this project.

The sample(s) will be stored for 30 days after completion of analysis; then disposed of in accordance with State and Federal regulations. Sample(s) may be archived by prior arrangement.

Thank you for the opportunity to service the needs of your company.

Sincerely

Hiram Cueto Lab Manager

remail: info@organlabs.com

CHAIN OF CUSTODY

Argon Labs.
2120 W. Mailend Ave Hölles: NW 66240
(805)397-0295 (805)397-0296 (405)

人名英格兰 经存货的 医电子性神经 医多种性神经 医多种性 医多种性 医多种性 医多种性							**COMMENTS					And the second of the second o					and the second s		S. C.	SPECIAL INSTRUCTIONS:		
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· 44 1 14 7 14 14 14 14 14 14 14 14 14 14 14 14 14	Client 5. Address 70 Confact Phon(\$75)		Address:			N AND TO	919 501 -12			1										Recoffee	neceived By	Received By
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***	Project to pole of Project to pole of	N	Sampler's Signalure:		RUSH			Sample 10		ナルンサ									-	Ratioquistroil By:	Rethroutstand By:	Reilingslißbed By:

Argon Laboratories Sample Receipt Checklist

Client Name: S	Safety & Enviro	nmer	ntal Solu	tion	Date & Til	me Received:		08/26/08	}		15:15		
Project Name: P	aladine Bucke	ye Le	eak		Client Pro	ject Number:	PAL-0	8-001					
Received By:	RE.			Mai	trix:	Water 🗸	Soil						
Sample Carrier: C	Client	Lab	oratory	V	Fed Ex	UPS		Other					
Argon Labs Project N	umber:	C80	8001										
Shipper Container in go	od condition?					Samples receive	d in prop	er containe	ers?	Yes	V	No	
	I/A	Yes	$ \mathbf{V} $	No		Samples receive	d intact?			Yes	~	No	
Samples received unde	r refrigeration?	Yes	I	No		Sufficient sample	e volume	for reques	ted tests	? Yes	4	No	
Chain of custody preser	nt?	Yes	V	No		Samples receive	ed within	holding tim	e?	Yes	I	No	
Chain of Custody signer		Yes	V	No		Do samples conf	tain prop	er preserva N/A	itive?	Yes		No	
Chain of Custody match	ies all sample la	ibels?				Do VOA vials cont	ain zero h	eadspace?					
		Yes	7	No			(None	submitted		Yes	V	No	
						AILED IN THE CO							
Contacted By: Comments: Action Taken:													
													_
generalistic des uns sublishment be-				ADDITIO	ONAL TES	ST(S) REQUEST /	OTHER						
Contacted By:						Date:				Tim	ie:		
Call Received By:													
Comments:													
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									-		-		-

Safety & Environmental Solutions, Inc.

Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Work Order No.:

C808001

703 E. Clinton Ave Hobbs, NM 88240

Project Manager: Bob Allen

ANALYTICAL REPORT FOR SAMPLES

S					_
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	
MW # 4	C808001-01	Water	08/26/08 11:00	08/26/08 15:15	_
MW # 5	C808001-02	Water	08/26/08 12:00	08/26/08 15:15	

Approved By

Argon Laboratories, Inc.

Safety & Environmental Solutions, Inc.

703 E. Clinton Ave

Hobbs, NM 88240

Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Project Manager: Bob Allen

Work Order No.:

C808001

ANALYSIS REPORT

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
MW # 4 (C808001-01) Water	Sampled: 08/26/08 11:00 Receiv	ed: 08/26/08	15:15				
Total Dissolved Solids	3700	10	mg/L	1	09/02/08	EPA 160.1	
Chloride	1700	1.0	u	н	08/28/08	EPA 300.0	
MW # 5 (C808001-02) Water	Sampled: 08/26/08 12:00 Receiv	ed: 08/26/08	15:15				
Total Dissolved Solids	5400	10	mg/L	1	09/02/08	EPA 160.1	
Chloride	2600	1.0	"	**	08/28/08	EPA 300.0	

Safety & Environmental Solutions, Inc.

703 E. Clinton Ave

Hobbs, NM 88240

Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Project Manager: Bob Allen

Work Order No.:

C808001

Volatile Organics by EPA Method 8021B

Analyte	Result	Reporting Limit	Units	Dilution	Analyzed	Method	Notes
	npled: 08/26/08 11:00 Receiv	ed: 08/26/08	15:15				
Benzene	1.3	0.5	ug/L	1	08/29/08	8021B	
Toluene	ND	0.5	11	19	п	n	
Ethylbenzene	ND	0.5	n	11	н	н	
Xylenes (total)	ND	1.0	n	и	н	11	
Surr. Rec.:		91 %			"	"	
MW # 5 (C808001-02) Water San	npled: 08/26/08 12:00 Receiv	ed: 08/26/08	15:15				
Benzene	ND	0.5	ug/L	1	08/29/08	8021B	
Toluene	ND	0.5	н	и	**	н	
Ethylbenzene	ND	0.5	u	11	н	D.	
Xylenes (total)	ND	1.0	ti .	и	et e	11	
Surr. Rec.:		90 %			"	ıı .	

Approved By

Argon Laboratories, Inc.

Safety & Environmental Solutions, Inc.

703 E. Clinton Ave Hobbs, NM 88240 Project Number: PAL-08-001

Project Name: Paladine Buckeye Leak

Project Manager: Bob Allen

Work Order No.: C808001

ANALYSIS REPORT - Quality Control

Argon Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	RPD	Notes
}	Result		Cinto	130701	TCGGIT	, with the same of	10.5	110103
Batch CR00125 - General Prep					<u> </u>	·		
Blank (CR00125-BLK1)				Prepared &	k Analyzed	: 08/28/08		
Chloride	ND	1.0	mg/L					
LCS (CR00125-BS1)				Prepared &	k Analyzed	: 08/28/08		
Chloride	4.10		mg/L	5.00		82		
LCS Dup (CR00125-BSD1)				Prepared 8	k Analyzed	: 08/28/08		
Chloride	4.50		mg/L	5.00		90	9	
Matrix Spike (CR00125-MS1)				Prepared &	& Analyzed	: 08/28/08		
Chloride	4.15		mg/L	5.00		83		
Matrix Spike Dup (CR00125-MSD1)				Prepared &	& Analyzed	: 08/28/08		
Chloride	4.95		mg/L	5.00		99	18	
Batch CR00126 - General Prep								
Blank (CR00126-BLK1)				Prepared &	& Analyzed	: 09/02/08		·
Total Dissolved Solids	ND	10	mg/L					
LCS (CR00126-BS1)				Prepared &	& Analyzed	1: 09/02/08		
Total Dissolved Solids	950		mg/L	1000		95		
LCS Dup (CR00126-BSD1) Total Dissolved Solids				Prepared &	& Analyzec	i: 09/02/08		
Total Dissolved Solids	970		mg/L	1000	<u>-</u>	97	2	
Matrix Spike (CR00126-MS1)				Prepared &	& Analyzec	t: 09/02/08		
Total Dissolved Solids	1030		mg/L	1000		103		
Matrix Spike Dup (CR00126-MSD1)				Prepared &	& Analyzec	1: 09/02/08		
Total Dissolved Solids	1020	-	mg/L	1000	<u>·</u>	102	1	

Approved By

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Work Order No.:

C808001

Volatile Organics by EPA Method 8021B - Quality Control

Argon Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	RPD	Notes
Batch CR00128 - EPA 5030B								
Blank (CR00128-BLK1)				Prepared &	Analyzed:	08/29/08		
Surrogate: a,a,a-Trifluorotoluene	50.0		ug/L	50.0		100		
Benzene	ND	0.5	ıı					
Toluene	ND	0.5	r					
/Ethylbenzene	ND	0.5	**					
Xylenes (total)	ND	1.0	"					
LCS (CR00128-BS1)				Prepared &	Analyzed:	08/29/08		
Веплене	48.8		ug/L	50.0		98		
LCS Dup (CR00128-BSD1)				Prepared &	Analyzed	08/29/08		
Benzene	48.8		ug/L	50.0		98	0	
Matrix Spike (CR00128-MS1)				Prepared &	Analyzed	: 08/29/08		
Toluene	52.4		ug/L	50.0		105		
Matrix Spike Dup (CR00128-MSD1)				Prepared &	k Analyzed	: 08/29/08		
Toluene	52.6		ug/L	50.0		105	0.4	

Safety & Environmental Solutions, Inc.

703 E. Clinton Ave

Hobbs, NM 88240

Project Number: PAL-08-001

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Notes and Definitions

DET Analyte DETECTED

Analyte NOT DETECTED at or above the reporting limit ND

NR Not Reported

Sample results reported on a dry weight basis dry

RPD Relative Percent Difference

Approved By

Argon Laboratories, Inc.